Home Computing WEEKLY

An Argus Specialist Publication

2 week Christmas special!

No.42
Dec 20, 1983
-Jan 2, 1984

38p

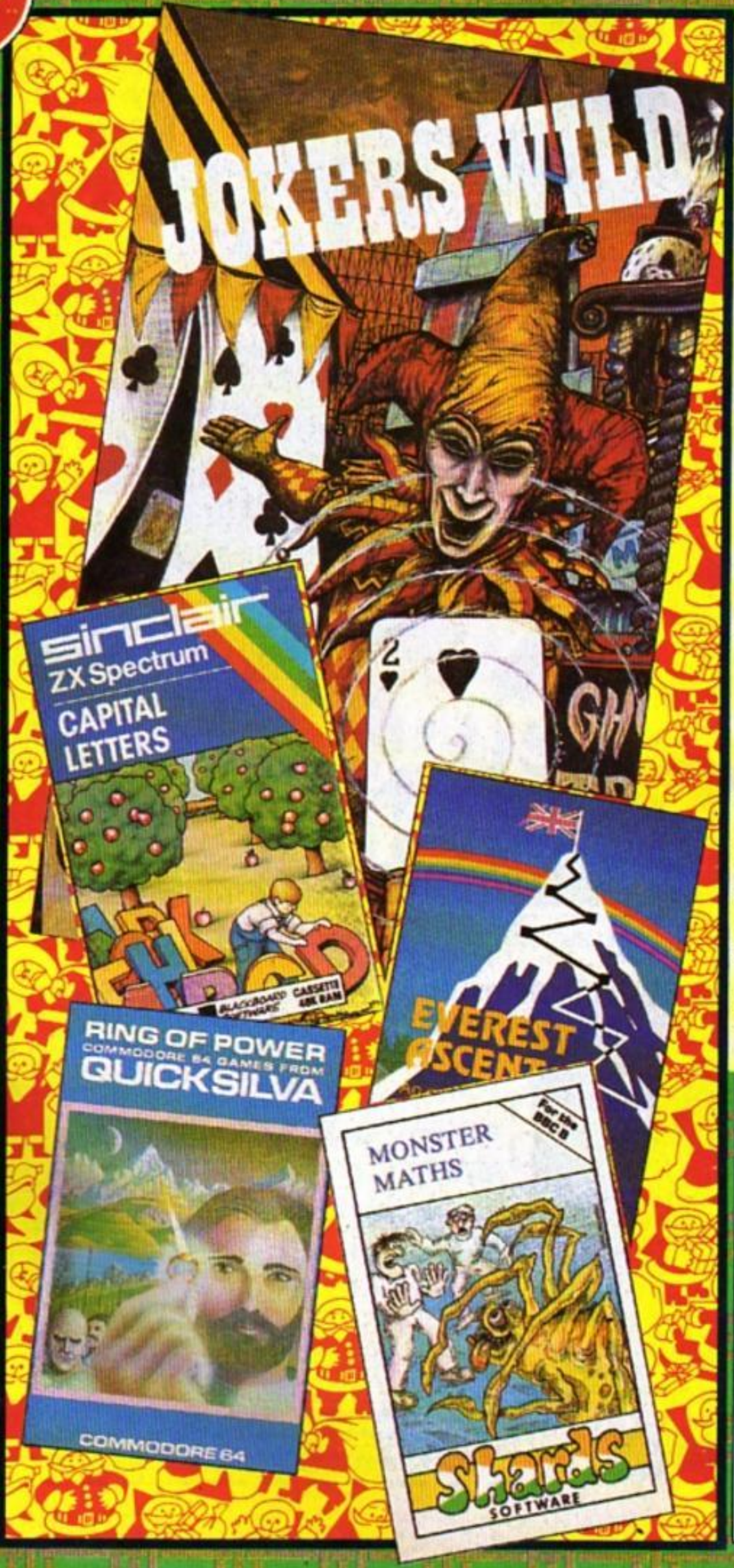
FREE GIFTS

1,000 tape head cleaners from RICHARD SHEPHERD to give away

Type in and have fun with ten seasonal games for: Spectrum, BBC, Oric, Dragon, Texas, VIC-20, Commodore 64

Our ghost story will give you spritemares...

Software reviews for: Dragon, Texas, Spectrum, Commodore 64



CBS plans its Adam strategy

CBS is talking to micro users both in the home and in business, to decide on exactly how its new Colecovision Adam computer should be marketed in the UK.

Philip Gibbs, marketing manager, explained: "We feel the Adam will be of interest to two markets — the serious home user and the small business employing about 10 people.

"There's a lot of evidence that home users are starting to upgrade to bigger, more powerful machines. And whereas at the moment small businesses thinking about buying a computer are faced with paying upwards of £300 for the micro alone, with the Adam, they'll get a complete system for around £700 — in-

Continued on page 5

More moves cause upsets in Liverpool

In the latest round of musical chairs in Liverpool, club owner Tommy Barton has recruited the production manager of add-on makers Fuller Micro Systems.

Until now the recent comings and goings had been mainly confined to big software houses like Bug-Byte and Imagine and their smaller rivals.

Software Projects, Mr Barton's first venture into home computers, has now been joined

Continued on page 5

new Spectrum Adventure

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new Spectrum Arcade action

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Send 50p stamp to: Software Supermarket, 87 Howard's Lane, London SW15 6NU

Mastered the basics of BASIC and ready to move on? Structured Programs in BASIC is a book of programming techniques, algorithms, program modules, programs and ideas for those who want to make more better use of their micro. Written by Peter Bishop, author of four other computer books, it costs £4.95, and should be in the shops just after Christmas.

Thomas Nelson, Nelson House, Mayfield Road, Walton on Thames, Surrey KT12 5PL

Martech has brought out two new games, Quest of Merravid, an adventure game for the Commodore 64 or VIC (£7.95) and Blastermind for the Spectrum (£5.50), a game of logic in which you have to guess the hidden code. Martech say they "accept no responsibility for damage caused by anger, aggravation or temper loss" as a result of playing Blastermind, and plan to make it even more annoying soon by adding synthesised comments using the Currah Microspeech synthesiser.

Martech, 9 Dillingburgh Road, Eastbourne, Sussex BN20 8LY

Dual-game tapes — one side for the VIC-20 and the other for the Commodore 64 — have been brought out by Audiogenic. They are Cataclysm, a space shoot-'em-up game at £5.95, and a monsters and ladders game called Bonzo (£7.95). Also new from Audiogenic: Shifty, a maze game for the 8K VIC at £5.95, and four for the Commodore 64. Serpentine, Seafox and Choplifter are £29.95 on cartridge and David's Midnight Magic is £29.95 on disc.

Audiogenic, P.O. Box 88, Reading, Berks RG1 2SN

The first four titles in the Clear and Simple Home Computer Series of paperbacks are out this month. They are Introduction to Computing, by Peter Lafferty; First steps in BASIC; Games, Graphics and Sounds; and Learning with your Home Computer, all by Susan Curran and Ray Curnow. The four books cost £4.95 each.

WHS Distributors, St Johns House, East Street, Leicester LE1 6NE

Home Computing WEEKLY

News, U.S. Scene 5,6

Spectrum program 10
Rudolph is tired out . . . help him with the gifts

Commodore 64 program 13
Your chance to be a speed king

Tape head cleaner offer 15
Richard Shepherd Software has 1,000 to give away

BBC program 16
Rudolph has lost his nose. You can help replace it

Christmas quiz 19

Oric program 21
Help sort out Santa's muddled presents

BBC program 24
Make sure everyone gets a Christmas gift

Software reviews 26
Outdoor games on CBM 64, Spectrum, Texas

Software reviews 29
Teaching games for Spectrum, BBC

Commodore 64 program 31
Sing along with a musical Christmas card

TI-99/4A program 36
Will you survive the boss's Christmas party?

Software reviews 43
Strategy games for BBC, Spectrum, CBM 64, Dragon

Letters 47

Dragon 32 program 48

Software reviews 51
Board games converted for Dragon, Spectrum, TI, BBC

VIC-20 program 53
Great graphics, family fun on the unexpanded VIC

Spectrum program 59
Round up Santa's reindeer before it's too late

Christmas ghost story 61

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A Happy Christmas to you

It's our first Christmas at Home Computing Weekly and we have put together a special seasonal issue.

We hope you have fun with the games inside.

And we would like to wish all of you a very happy Christmas as well as an enjoyable and successful New Year.

We are taking our Christmas break too. Home Computing Weekly will be back in the shops on Tuesday January 10.

As well as software reviews — more than any other magazine — the latest news, programming hints and listings to type in, there will be some great extras throughout 1984.

Our thanks go to all those who have helped to make HCW such a success in just 42 weeks.

Paul A. Liptrot

P.S. Please remember that we are now in new offices: No. 1 Golden Square, London W1R 3AB. Our new phone number is 01-437 0626.

CALPAC LEARNING SERIES

Colour graphics and sound are used extensively to make learning more enjoyable.

5. MULTIPLICATION TABLES. This program with correction sequences enables you to test individual multiplication tables, or all tables up to a maximum that you choose. Carriages are added to a train as the score increases – see the train glide through the countryside when the test is finished.

6. THE ROMANS. Answer questions on the Romans to win a horse, chariot, viaduct and temple. Answer enough correctly and the horse will gallop away with its chariot.

7. SPELLING TESTER. The words in the test are initially displayed on the screen. Then short sentences are used as prompts for the words, which must by typed correctly to add stages to a space-ship.

Replace the words and sentences in the program with weekly spelling lists, save them on cassette, and you will rapidly create a whole library of programs.

8. HOMOPHONES. Sale or sail; bare or bear? Choose the correct word to complete the sentence. Extra motivation is provided by a coloured pot-plant, which grows with each correct response. The plant flowers in an unusually tuneful fashion at the end of the program.

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Published by Calpac Computer Software, 108 Hermitage Woods Crescent, St Johns, Woking, Surrey GU21 1UF

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CALPAC

CALPAC LEARNING SERIES

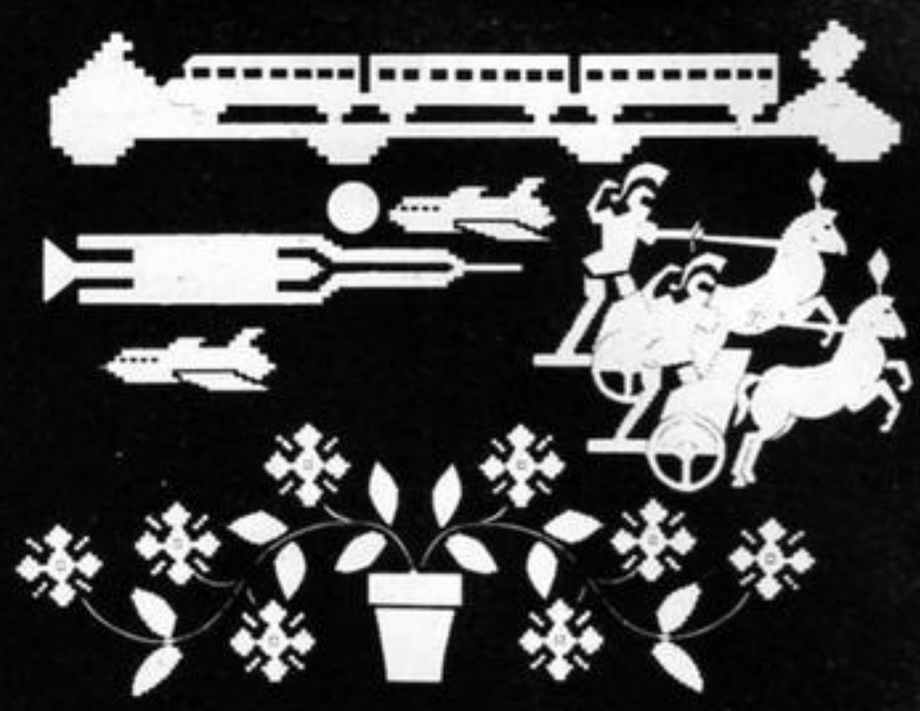
ZX SPECTRUM

VOL. 2

CALPAC

CALPAC LEARNING SERIES

PROGRAMS 5-8



5. MULTIPLICATION TABLES
5. THE ROMANS
7. SPELLING TESTER
8. HOMOPHONES

SPECTRUM II | 16K 48K

FROM 7 YEARS

CALPAC LEARNING SERIES

Colour graphics and sound are used extensively to make learning more enjoyable.

9. NOUNS, VERBS, ADJECTIVES AND ADVERBS. Sentences are displayed and you select the named parts of speech. Instant feedback and helpful comments ensure positive learning. Correct answers are rewarded by the creation of a coastal scene, which is animated at the end of the program.

10. VERB PRACTICE. You have to complete the sentences using the correct tenses of the verbs. The program concentrates on those irregular verbs that often cause difficulty. An underwater landscape is created as questions are correctly answered.

11. THE STRUCTURE OF THE FLOWER. This program explains how the parts of the flower are involved in the formation of seeds. This is a three part program which makes full use of high resolution colour graphics.

12. LONG DIVISION. This detailed program takes the learner through long division sums in easy stages. Correction sequences are automatically provided when they are needed. Sums with remainders can be chosen if required.

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CALPAC LEARNING SERIES

ZX SPECTRUM

VOL. 3

FROM 9 YEARS

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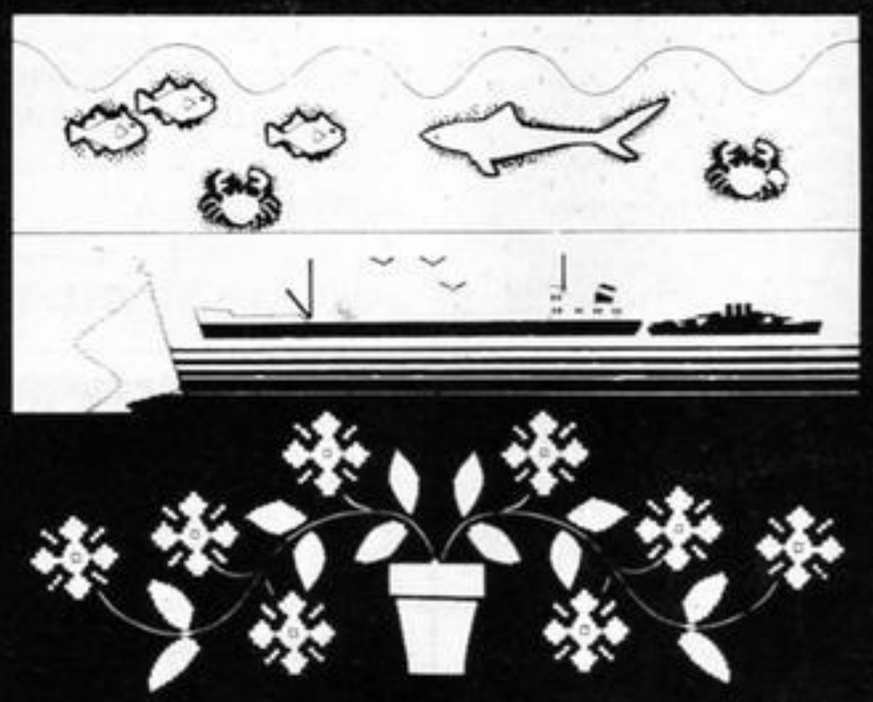
CALPAC LEARNING SERIES

PROGRAMS 9-12



9. NOUNS, VERBS, ADJECTIVES AND ADVERBS.
10. VERB PRACTICE
11. THE STRUCTURE OF THE FLOWER
12. LONG DIVISION

SPECTRUM II | 16K 48K

FROM 9 YEARS

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Adam Strategy

From front page

cluding VAT.

"What we're trying to do is find out exactly what people are currently using their microcomputers for, and how they would like to use them. And then we hope to be able to pinpoint features of the Adam that will do those things.

"It's being promoted in the States as 'the first family computer'. But 'family' in this country suggests 'unprofessional'. We don't want to frighten off the business user, so we're thinking of calling it 'the complete computer system.'"

For the price tag of £700 or so, Adam purchasers will get a keyboard unit, daisywheel printer, two games controllers/keypads and a mass storage/processor unit.

The computer has a Z80A processor and 80K of RAM, upgradeable to 144K. There's the CP/M operating system and a word processor built into ROM, but BASIC has to be loaded in from cassette.

Mass storage facilities will consist of a cartridge slot, which will take Coleco games cartridges, and a high-speed digital tape recorder which will take only special Coleco tape cassettes. The system cannot be split up.

As an alternative to buying the system from scratch, the 30,000 or so UK owners of Coleco games machines can buy an expansion unit to turn their games players into a computer — but the interface may well set them back £400-£500.

CBS does not as yet know how much the special tape cassettes will cost, but the disadvantages of using non-standard tapes will to some extent be offset by faster and more reliable loading and saving. Each tape will also be able to hold a great deal of data — the equivalent of up to 250 pages of double-spaced typed text.

The Adam will come with three cassettes — the Smart BASIC tape, which will also have spare storage capacity, a blank tape, and a game, called Buck Rogers — The Planet of Zoom.

There are currently 17 games cartridges already available for the Coleco games machine, and Coleco is working on a selection of tape-based software, including a Smartfiler system which allows you, among other things, to build up mailing lists.

There will also be a number of "supergames" like the Buck Rogers tape, which will have lots of different screens which load in in sections from the tape unit. Coleco is promising to unveil "a whole range" of these tapes at the Las Vegas computer show in January.

Also promised for the Las Vegas show is a disc drive interface. Because Adam has the CP/M operating system, by buying the disc interface and a disc drive, users would be able to run much of the disc-based software already written for CP/M-based machines.

For the UK launch, CBS will select software from Coleco's range, adapting programs for the UK market where necessary. But it is also talking to two independent UK software companies about developing a series of programs especially for the UK, taking into account the results of its discussions with UK users.

CBS hopes that the Adam will be on sale in a range of most of the High Street chains, but so far it has only spoken to two companies. According to Philip Gibbs, "nobody's yet made any commitment and we haven't asked them to."

Before either the expansion unit or the complete Adam can go on sale here, a transformer has to be developed to allow them to work with UK TV sets, and the Adam itself will have to have a new PCB.

But CBS is pretty confident that Adam will be in the shops in April — and the expansion unit will probably arrive even sooner than that.

CBS, Headley Road East, Woodley, Berks

Colecovision's new Adam — a complete system for an all-in-one price

Liverpool

From front page

by Hardware Projects.

Its first product — now at the prototype stage — is to be a joystick interface-amplifier for the Spectrum. It will have a volume control and will be compatible with Kempston joysticks.

Managing director is Keith Archer, from Fuller, who said: "I'm aiming for a range of products and I don't intend to stick just with the Spectrum."

Among his ideas: a programmable joysticks interface plus ROM cartridges for the Commodore 64, VIC-20 and Spectrum. All would be designed by a team for which he was advertising.

Mr Archer's former boss, Fuller managing director Roy Backhouse, said: "I would not like to throw cold water on it, but if any attempt is made to hype our ideas there will be writs flying about. We don't want to see our lead going down the drain.

"Obviously it's a good coup for Tommy Barton — Keith knows how Fuller works and the contacts. We have re-structured the company and we can live without him. It was no great loss."

Liverpool's home computer history starts in 1977 when Bruce Everiss, now an Imagine director, started a store called Microdigital. Mark Butler, his sales manager, left to join Bug-Byte at about the same time as his friend and self-taught programmer Dave Lawson. They later left to form Imagine.

Meanwhile Mr Everiss ran into cash flow problems and sold Microdigital to Laskys in a deal which obliged him to stay with the new owners for a time, during which more stores were opened. One source believes some of the money from the Microdigital sale went into Imagine.

Back at Bug-Byte, in October this year, Alan Maton and his secretary wife Soo decided they wanted to go it alone and formed Acme Software, with Mr Everiss as chairman and advisor.

Enter Mr Barton, well known on the Liverpool club and pub scene. His best-known club is Toad Hall in nearby Ainsdale.

He is the money man behind Software Projects. Its best-known game is Manic Miner, and now a sequel featuring the same character, Jet Set Willy.

Both were written by Matthew Smith, 17, who had licensed the chart-topper Manic Miner to Bug-Byte. Now he is transferred it to Software Projects — Bug-Byte still has stock to sell — of which he will be a director on his eighteenth birthday in February.

He will own slightly less than a third of the company with Mr Barton and Mr Maton holding the remainder.

In a few days a Commodore 64 version of Manic Miner should be ready. It is being converted from the Spectrum by RAF corporal Chris Lancaster, author of Imagine's Spectrum game, Bewitched. There will also soon be a 64 version of Jet Set Willy.

Mr Maton says his company aims to be friendly and helpful to both trade and customers. But some senior software people in Liverpool are unhappy about the latest changes.

Mr Maton's Acme Software is now part-owned by Roy Butler, father of Imagine's Mark Butler, who also has another software house, Voyager.

Bug-Byte has just launched The Birds and The Bees — with graphics by Matthew Smith — which introduces a new cartoon character called Boris the Bee.

Latest products from Imagine are Atari and Dragon versions of Leggit — the name changed from Jumpin' Jack by agreement with a company aleady using the name — and two more Spectrum tapes: Alchemist, a graphic adventure, and a war game called Stonkers.

And, according to Mr Everiss, Imagine is looking to games by cable in which the adventure could be played by several people and huge games sold on laser disc.

● Other companies which play a part in Liverpool's home computer saga are U Microcomputers, DAMS, Stack, Lyversoft and Home Computer Centre.

Customers queued outside Microage, in Edgware, waiting for opening time on Saturday last week — all waiting for Electrons, Acorn's £199 computer. The store had 98 and sold all of them on the day.

Well done — 101 times

Congratulations to the winners of our Spot the Difference competition in issue No. 35 — all 101 of you.

We asked you to find the differences between two drawings of a monk sitting at his home computer.

New Generation Software offered a first prize of a Spectrum Microdrive, plus Interface 1. The 100 runners-up each receive two New Generation game tapes.

And the winner of the first prize is: Mr A. J. Markham, of Great Yarmouth.

His was the first correct entry drawn after the closing date.

He correctly identified the 10 differences between the two cartoons:

- Plane missing from window
- Flame omitted from candle
- Missing ear lobe
- Stone in wall deleted
- Character missing from screen
- One less key on keyboard
- No screws in hinge on desk
- Cable to screen deleted
- Larger ink spill
- Shading missing from sandal strap

The other 100 winners are:

A. Thorpe, of Birmingham; Nicholas Jackson, Halifax; Alan Aziz, South Shields; Lee Moorhouse, Deeside; Bryan Wills, Ruislip Manor; N. P. Carter, London NW1; Brian Christie, Belfast; Tomas Caulfield, Portmarnock; Garry Britton, Darlington; Miles Woodroffe, Coventry;

Carol J. Bland, Horsham; Peter Gent, London SE19; R. J. Bartley, Grays; K. K. Solanki, Moseley; J. R. Allison, Bury St Edmunds; S. Pearce, Maidenhead; John Barclay, Cumbernauld; H. Goh, Telford; N. Ingram, RAF Gatow; C. R. Jones, Mansfield;

John Hung, Liverpool; Julie-Ann Oliver, Ashington; C. E. Jones, Nantwich; Lee-Ann Morris, South Petherton; K. Terry, Bradford; Jeff Green, Harrow; D. G. Broadfoot, Cheltenham; Richard West, Aberdeen; David Phillips, Cumbria; Miss S. L. Atkins, Loughton;

J. V. Hutt, Perivale; Jason West, Hemel Hempstead; A. Frisby, Bedford; David Ames, Nottingham; Steve Jones, Norbury; Michael Pearson, Blackpool; R. Manders, London W14; J. A. Gauge, Rushden; Tudor Costigan, Cheltenham; Andy Rawling, Chester;

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Derek Alden, Manningtree; John Zimmerman, Holloway; Mark Pepperrell, Bedford; J. Alba, London SW1; Duncan Wigham, South Yorkshire; Stephen Haley, Islington; Jason Holt, Earlsfield; Phil Coyne, Derby; Tim Prince, Kendal; Jeremy Johnson, Newmarket;

Marcus Prescott, Swadlincote; R. G. Allen, West Bromwich; D. Sewell, Farnborough; R. J. Pyle, Guernsey; Julian Farrow, London E2; David Latus, Hull; David Richardson, Leeds; C. H. Gardner, Newcastle upon Tyne; Francis Rumbold, Luton; Paul Meekings, Stowmarket;

Mark Johnson, Coventry; C. Barnsley, Dudley; M. Leitch, Hawick; A. Coombs-Hoar, Folkestone; J. Rhodes, Shipley; E. Tunstall, Crewe; Andrew Tillman, Leeds; Philip Hastie, North Shields; D. Mackay, Isle of Lewis; S. E. Williams, Barnsley.

Your prizes will arrive from New Generation Software within 28 days.

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Nice micros, shame about the drives

I used to say that Commodore's worst enemy over here was its own marketing people. Thank goodness (for them) that that is no longer the situation.

Both the VIC-20 and the 64 are now attaining sales figures that reflect the quality of these two fine machines. National price reductions have not exactly hurt sales either. Perhaps I shouldn't say this, but it is quite easy to buy a VIC-20 for about $80 or a 64 for less than $170 (both unexpanded of course).

Well, now that the marketing is going well, I can tell you that their product demand forecasting people are now Commodore's worst enemies along with their buyers. There is now a nationwide shortage of the Model 1541 floppy disc drives. It looks as though Commodore never anticipated the demand. Most selling dealers figure that about 80 per cent of all buyers will want the floppy disc system immediately. Well, too bad for them because there are virtually none to be found anywhere.

One manufacturer of software for the machines is rumoured to be developing a compatible disc drive that may be ready very soon. I suppose that if they do not do so, they will not be able to sell their software in significant volume.

To make matters worse, Commodore recently rejected shipment of 30,000 drives from Alps Electronics. The supposed reason for the rejection was an exceptionally high number of defective drives. Earlier in the year Commodore entered into an agreement with the Japanese firm Mitsumi to make drives, yet it appears that it will be at least one year before those products are marketable. The cost of this problem will be phenomenal, especially with the Christmas shopping season upon us.

One of America's largest retailers has so few units that most of its stores have only a demo drive, and many do not even have that! Several outlets have been back-ordered for two months or more.

The disc drive shortage has a doubly negative effect on software developers. First it makes them wonder if customers are willing to wait for an undetermined period of time before buying a competitively priced product for which disc drives are readily available, even if they are more expensive. Secondly, it is hard to develop software when you cannot even obtain a disc drive on which to develop the programs.

It will be extremely interesting to watch what develops. I am sure that Commodore has sent Santa a nice letter requesting lots of nice disc drives. By the time you read this we in the States will know if Commodore has been naughty or nice.

★ ★ ★ ★

A firm called American Small Business Computer Inc. has announced the availability of a Tandy Colour Disc Kit that will expand the storage capabilities of the Colour Computer. The kit includes one 5¼in floppy disc drive which is a double density 40-track unit, a cable and plug-in program cartridge and a blank disc.

Each disc drive is capable of storing up to approximately 156K bytes, and a maximum of four drives can be supported. This would give your system up to a little over 626K of storage. In order to use the kit you must already have the Extended Colour BASIC package from Tandy. Each kit costs $399. For more details, write to American Small Business Computer Inc., 118 South Mill Street, Pryor, Oregon 74361. (918) 825-4844.

See you next week.

Bud Izen
Fairfield, California

Stell Software

for top quality programs

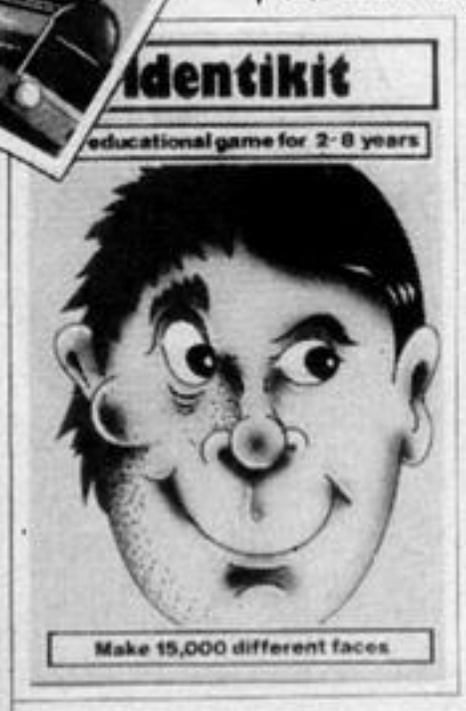
Make learning fun with these top quality educational games!

Money - an introduction to coins and notes and their use in shopping. 4-10 yrs. (Spectrum 48k.)

Missing Words - watch the train move forward when you type in the right word. 4-10 yrs. (Spectrum 48k.)

Maths Invaders - answer the questions correctly or the invaders will land on you. 4-12yrs. (Spectrum 16/48k. BBC B. Electron.)

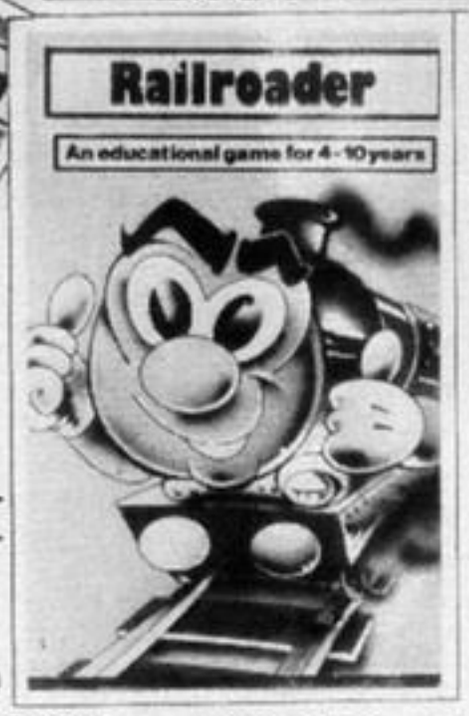
Identikit - choose from a range of features and build up a face on the screen. 2-8 yrs. (Spectrum 48k.)



Time - learn to tell the time with this simple step by step guide. 3-10yrs (Spectrum 48k. BBC B. Electron.)

Micros for Children 1. a set of four educational games for children of 3-8 yrs. Excellent value. (Spectrum 16/48k.)

Railroader - lay track on the screen in any layout you want. 4-10 yrs. (BBC B. Electron.)



Spectrum programs only **£6.95** BBC/Electron programs only **£7.95**

Ask for Stell Software at larger branches of Boots, John Menzies, W. H. Smith and all good computer shops, where most titles are available.

Dealers should contact their regular distributors.

No. 1 in Education

Stell Software 36 Limefield Ave, Whalley, Lancs, BB6 9RJ.

Available from larger branches of Boots, F.W. Woolworth, John Menzies, Savacentre, Martin the Newsagent, Carrefour, Harrods, Lewis Meeson,

Once you've got to grips with the Rock 'n' Roll game, flip-over and get your teeth into Dracula.

New K-tel Doublesiders are great fun and great value which ever way round you look at them.

For only £6.95 you don't just get one top quality computer game, you get two.

When you've finished playing one side simply flip it over (just like a music cassette) and move off on a second totally different, equally gripping game.

Take your choice. Already there are five Doublesiders to choose from — three suitable for the ZX Spectrum and two for the Commodore Vic 20 — and there are more to come.

So hurry to the shops now and see for yourself how K-tel Doublesiders really do give you twice the fun with two on one.

1 **It's Only Rock 'n' Roll** Can you become a superstar? A Rock 'n' Roll idol...Or are you just another has been?
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Rudolph is flagging — and there are more gifts to deliver

He may be Chief Reindeer, but Rudolph gets tired just like the rest of the team. Give him a hand with the presents by playing Santa Post, a Spectrum game by Clyde Bish

Have you ever collapsed into an armchair after Christmas lunch and thought that there must be more to life than waiting for mince pies at tea time?

Here's a nail-biting program to get the adrenalin running and shake off that brandy-after-the-sherry-before feeling.

You see, Santa has a problem. There are still presents to deliver and poor old Rudolph is getting tired — he's losing height fast. If you can help Santa by pressing zero to drop a present into a chimney pot Rudolph gets a new lease of life and rises in the sky.

The problem is, can you score hits fast enough to keep him from bumping his nose on the chimneys?

It's a thankless task. The more successful you are the higher the chimneys get.

Come on, Aunt Flo! Get a higher score than Grandad!

Note: The capital letters within quotes in lines 110, 400, 410 and 4010 must be entered in the Graphics mode.

How it works

20-100 set up variables, graphics and screen
110 PRINTs Santa, checks if he's about to bump into a chimney. If so, goes to End routine (500)
120 checks if Santa is at end of line. If so, blanks him out and resets x & y
130 checks for 0 pressed. If so, sets flag b and start position of px & py
140 GOes SUB to gift drop routine (400)
150 if flag b not set, PAUSEs to delay passage of Santa
400 PRINTs present dropping
405 checks if present misses chimney or hits stack. If so, resets flag b
410 checks if present hits pot. If so, resets flag b, increases score by 10, increments pot counter, decrements x, changes colour of pot
420 if all pots filled then new screen (4000)
500-560 end routine, best score, play again?
1000-1080 title, set graphics
4000- produce screen display

Variables

bs best score
h height of chimneys
s score
x,y Santa's line, column position
b drop present flag
h$ best scorer
py,px gift column, line position
pc pot counter
g,f loops to set graphics
t number of pots/screen
r height of chimney
f chimney draw loop
n move chimney position counter

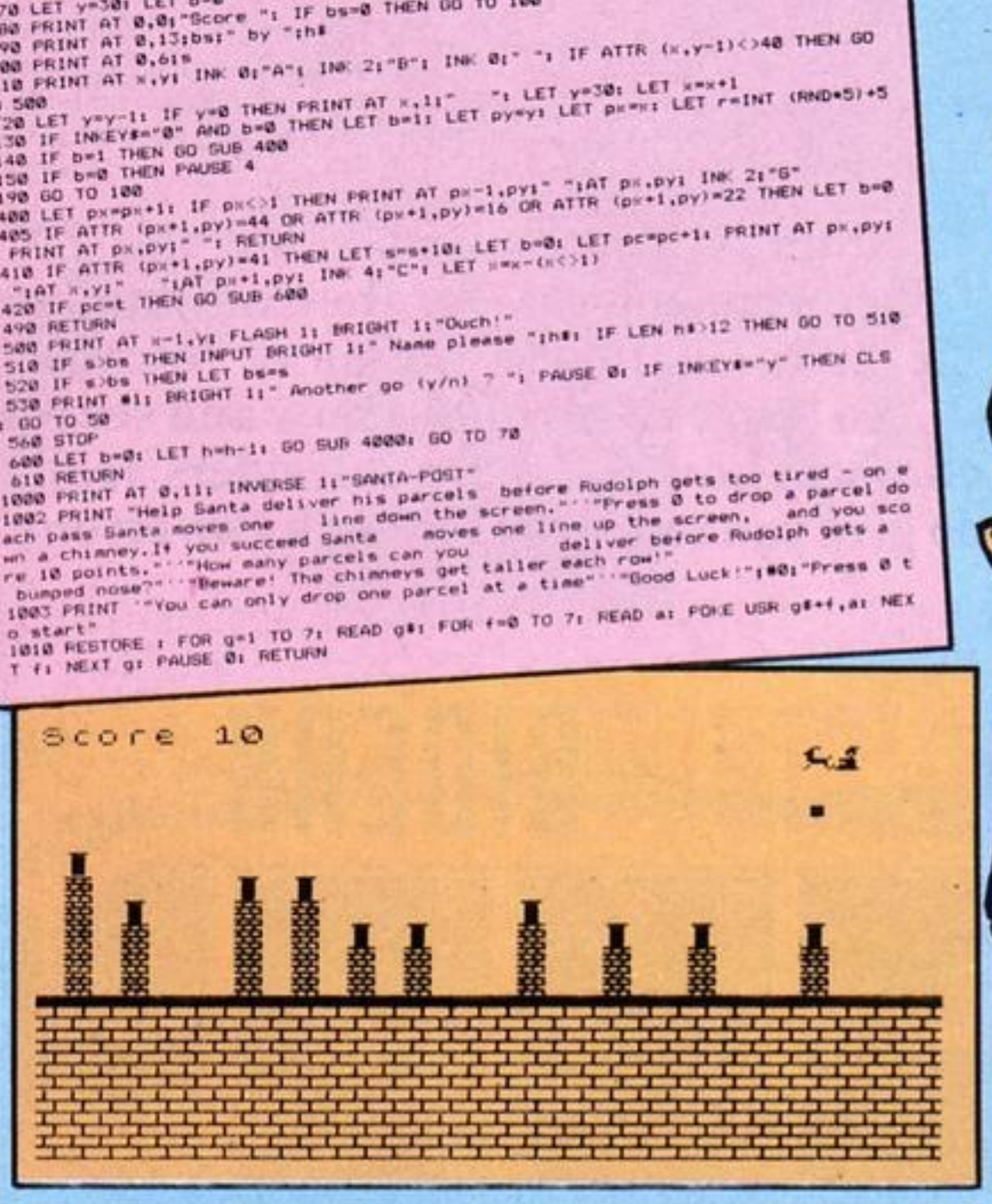
Hints on conversion

Colours: **1** blue, **2** red, **4** green, **5** cyan, **0** black, **7** white

Screen is 22 lines by 32 columns. ATTR(line, column) returns the colour attributes of that position (PAPER X 8 plus INK number). INKEY$ reads the keyboard.

```
20 LET bs=0: GO SUB 1000
50 LET h=9: LET s=0
60 GO SUB 4000: LET x=1
70 LET y=30: LET b=0
80 PRINT AT 0,0;"Score ": IF bs=0 THEN GO TO 100
90 PRINT AT 0,13;bs;" by ";h$
100 PRINT AT 0,6;s
110 PRINT AT x,y; INK 0;"A"; INK 2;"B"; INK 0;" ": IF ATTR (x,y-1)<>40 THEN GO
TO 500
120 LET y=y-1: IF y=0 THEN PRINT AT x,1;"  ": LET y=30: LET x=x+1
130 IF INKEY$="0" AND b=0 THEN LET b=1: LET py=y: LET px=x: LET r=INT (RND*5)+5
140 IF b=1 THEN GO SUB 400
150 IF b=0 THEN PAUSE 4
190 GO TO 100
400 LET px=px+1: IF px<>1 THEN PRINT AT px-1,py;" ";AT px,py; INK 2;"G"
405 IF ATTR (px+1,py)=44 OR ATTR (px+1,py)=16 OR ATTR (px+1,py)=22 THEN LET b=0
: PRINT AT px,py;" ": RETURN
410 IF ATTR (px+1,py)=41 THEN LET s=s+10: LET b=0: LET pc=pc+1: PRINT AT px,py;
" ";AT x,y;"  ";AT px+1,py; INK 4;"C": LET x=x-(x<>1)
420 IF pc=t THEN GO SUB 600
490 RETURN
500 PRINT AT x-1,y; FLASH 1; BRIGHT 1;"Ouch!"
510 IF s>bs THEN INPUT BRIGHT 1;" Name please ";h$: IF LEN h$>12 THEN GO TO 510
520 IF s>bs THEN LET bs=s
530 PRINT #1; BRIGHT 1;" Another go (y/n) ? ": PAUSE 0: IF INKEY$="y" THEN CLS
: GO TO 50
560 STOP
600 LET b=0: LET h=h-1: GO SUB 4000: GO TO 70
610 RETURN
1000 PRINT AT 0,11; INVERSE 1;"SANTA-POST"
1002 PRINT "Help Santa deliver his parcels  before Rudolph gets too tired - on e
ach pass Santa moves one  line down the screen.""Press 0 to drop a parcel do
wn a chimney.If you succeed Santa  moves one line up the screen,  and you sco
re 10 points.""How many parcels can you  deliver before Rudolph gets a
 bumped nose?""Beware! The chimneys get taller each row!"
1003 PRINT ""You can only drop one parcel at a time""Good Luck!";#0;"Press 0 t
o start"
1010 RESTORE : FOR g=1 TO 7: READ g$: FOR f=0 TO 7: READ a: POKE USR g$+f,a: NEX
T f: NEXT g: PAUSE 0: RETURN
```

```
1020 DATA "a",56,96,224,97,126,62,66,129
1030 DATA "b",7,14,10,4,62,14,198,127
1040 DATA "c",126,60,60,60,60,60,60,60
1050 DATA "d",255,36,255,73,255,36,255,73
1060 DATA "e",32,32,32,255,4,4,4,255
1070 DATA "f",255,255,255,255,4,4,4,255
1080 DATA "g",0,0,0,0,60,60,60,60
4000 LET pc=0: LET t=0: INK 0: PAPER 5: CLS
4010 PRINT AT 15,0; PAPER 2;"FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF": FOR n=16 TO 21:
PRINT AT n,0; PAPER 2;"EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE": NEXT n: FOR n=1 TO 27:
LET r=INT (RND*5+n): PRINT AT r,n; INK 1;"C": FOR f=r+1 TO 14: PRINT AT f,n; IN
K 6; PAPER 2;"D": NEXT f: LET t=t+1: LET n=n+INT (RND*3)+1: NEXT n
4020 RETURN
```



That's 10 presents safely delivered — and another on the way to a chimney pot. A screen dump of Santa Post

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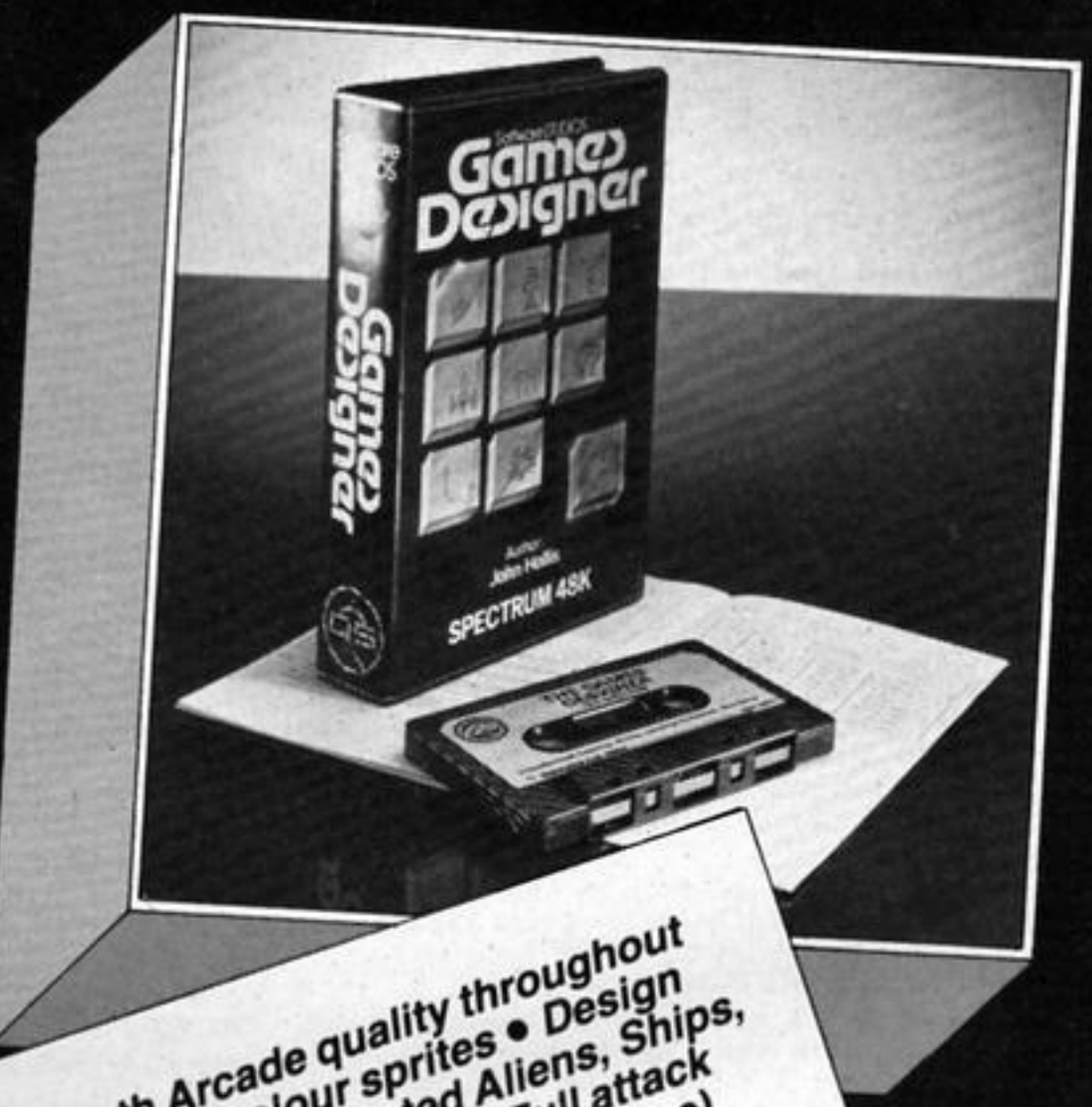

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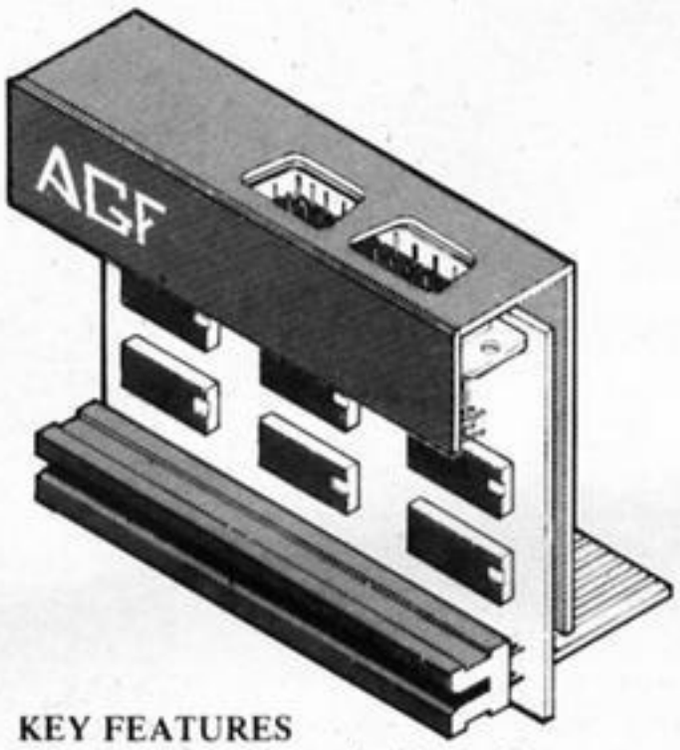

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6 Main Avenue, Moor Park, Northwood Middlesex.

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76 Cornwall Street, Plymouth PL1 1NS

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53 Maple Road, Penge, London SE20

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The Computer Centre (Humberside) Ltd
26 Anlaby Road, Hull HU1 2PA

COMMODORE 64 PROGRAM

Go on — put your foot down

There's no speed limit on the highway in Tony Kelly's Racer game. But there are some very strange drivers about...

The faster you drive, the more points you pick up in my Racer game for the Commodore 64. As usual, the only problem is the other cars on the road.

You'll have to use all your skill and judgement to dodge them — especially on level two, when they'll swerve when you least expect it.

Variables

SO,W,AT,H,L, WX,NL control sound
F(12),D$(12) 10 highest scorers' names and scores
TI$ the Commodore's built-in clock
SP speed
HA 0 for levels 5A-1A, 1 for levels 5B-1B

Racer has 10 levels. From 5A to 1A you can control the speed at which you want to travel.

But from 5B to 1B, the speed gradually increases until your car is going flat out — or until you crash. See if you can stay the course long enough to get your name in the top ten hall of fame.

After you choose your skill level, you'll see the driver come down the screen and get into the car. After the titles, press the space bar, and you're off.

```
10 SO=54296:W=54276:AT=54277:H=54273:L=54272:LI=6:WX=54278:POKE650,0:RR=0:S1=0
20 HA=0:DIMD$(12):DIMF(12):S2=0:GOSUB980
21 POKE53281,0:POKE53280,0
22 PRINT"■":PRINT:PRINT:PRINT
23 REM [COMM/5] [CRSR LEFT]
24 PRINT"■        SKILL 1=NO SWERVING CARS":PRINT"■        SKILL 2=SWERVING CARS"
25 PRINT:PRINT:PRINT:INPUT"■   INPUT SKILL LEVEL (1/2) ";YN
30 PRINT"■":V=53248:POKEV+21,7:POKEV+30,0
40 POKEAT,0:POKEWX,0:POKEW,0
50 FORA=200TO202:FORC=0TO62:READB:POKEA*64+C,B:NEXT:NEXT
60 A=203:FORC=0TO62:POKEA*64+C,INT(RND(1)*128):NEXT
70 DATA0,56,0,0,124,0,6,254,192,6,254,192,6,238,192,7,215,192,6,254,192,6,238
80 DATA192,6,214,192,0,130,0,0,146,0,0,186,0,12,146,96,12,198,96,13,255,96,13
90 DATA171,96,15,85,224,13,171,96,13,255,96,12,170,96,12,40,96
100 DATA0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,4,8,0,10,20,0,11,224,0,2,208,0,3,24
0
110 DATA0,1,32,0,0,192,0,3,240,0,5,40,0,9,100,0,17,98,0,1,224,0,2,16,0,4,8,0,8
120 DATA4,0
130 DATA0,16,0,0,124,0,0,16,0,15,145,248,26,145,92,119,255,238,232,136
140 DATA247,218,218,251,120,216,254,121,219,254,122,203,222,127,255,254,127,255
150 DATA254,98,0,6,97,0,6,225,0,6,237,252,6,111,255,38,109,252,230,63,255,252,3
1
160 DATA255,248
161 IFRR=1THENRETURN
170 POKE2040,200:POKE2041,201:POKE2042,200:POKE2043,203:POKEV+40,1
180 X=100:Y=100:POKEV+21,3:POKE53281,0:POKE53280,0
190 POKEV,150:POKEV+1,200:POKEV+2,150
200 FORA=1TO180STEP0.3:POKEV+3,A:POKES0,15:POKES0,0:NEXT
210 POKE53281,6:POKE53280,6:POKEV+21,1
215 REM[WHT]
220 PRINT"■  *** *** *** *** ***    BY  "
230 PRINT "  * * * *   *   * *"
240 PRINT "  **  *** *   *** **   T.KELLY"
250 PRINT "  * * * * *   *   * *"
260 PRINT "  * * * * *** *** * *"
265 REM [GRN]
270 PRINT:PRINT:PRINT"■****  NOW YOU ARE IN YOUR MOTOR   ****"
275 REM [COMM/1] [RVS OFF] [YEL]
280 PRINT"■■RULES■":PRINT:PRINT"■KEEP ON THE ROAD TRY TO REACH AS FAST"
290 PRINT"A SPEED AS POSSIBLE BECAUSE SPEED "
300 PRINT"GETS POINTS DONT TOUCH THE CARS YOU"
305 REM [RVS ON] [RVS OFF]
310 PRINT"OVERTAKE OR YOUR ■DEAD■"
315 REM [GRN] [RVS ON] [RVS OFF]
320 PRINT:PRINT:PRINT"■  PRESS ■SPACE■ TO START"
330 IFPEEK(197)<>60THEN330
340 PRINT"■":POKEV+21,7
350 SP=0:POKES0,15:POKEAT,190:POKEWX,248:POKEH,1:POKEL,SP*8:POKEW,129
360 SC=0
370 X=150:Y=200:X1=110:Y1=10:X2=160:Y2=100:SP=1:FO=0
380 POKE53281,0:POKE53280,0
385 REM [RED]
390 FORA=1TO25:PRINTSPC(10);"■■                ■":NEXT
400 TI$="000000":POKE2041,200
410 POKE(V+30),0
415 REM [HOME] [CRSR DWN]
420 PRINT"■■■■SCORE":PRINT"■■■■■■■■■■■■LEVEL";(LI-1);"A":IFHA=1THENPRINT"■B"
430 POKEV,100:POKEV+1,200:POKEV+2,2:POKEV+3,2:POKEV+4,2:POKEV+5,2
440 POKEV,X:POKEV+1,Y
450 POKEV+2,X1:POKEV+3,Y1:POKEV+4,X2:POKEV+5,Y2
460 PRINT"■ TIME="RIGHT$(TI$,2):PRINT"■■■■■";SC
470 IF(PEEK(V+31)AND1)=1ANDX<=108THENX=108
480 IF(PEEK(V+31)AND1)=1ANDX>=198THENX=198
490 IF(PEEK(V+30)AND1)=1THENGOTO690
500 IFPEEK(197)=57THENX=X-10
510 IFPEEK(197)=56THENX=X+10
520 IFPEEK(197)=60ANDHA=0THEN620
530 IFPEEK(197)=59ANDHA=0THEN650
540 Y2=Y2+SP:IFY2>250THENY2=10:X2=INT(RND(1)*90)+108:POKEV+41,INT(RND(1)*15+1)
550 Y1=Y1+SP:IFY1>250THENY1=10:X1=INT(RND(1)*90)+108:POKEV+40,INT(RND(1)*15+1)
551 IFYN=1THEN560
552 OC=INT(RND(1)*100):IFOC=50THENS1=1
553 IFS1=1THENX2=X2+5:IFX2>198THENS1=0:X2=198
554 IFOC=40THENS2=1
555 IFS2=1THENX1=X1-5:IFX1<=108THENX1=108:S2=0
560 SC=SC+INT(SP)
570 IFY2=10THENSC=SC+10
580 IFY1=10THENSC=SC+10
585 REM [HOME] [WHT]
590 IFHA=1THENSP=SP+0.5:PRINT"■";SPC(25)"■SPEED=";SP*3;"  ":IFSP>30THENSP=30
600 IFTI$="000100"THEN650
610 GOTO440
615 REM [HOME] [BLU] [WHT]
620 SP=SP+0.5:PRINT"■";SPC(25)"■SPEED=■";(SP*3);" ":IFSP>30THENGOSUB680
630 NL=(SP*8):IFNL>255THENNL=255
640 POKEL,NL:GOTO530
650 SP=SP-1:PRINT"■";SPC(25)CHR$(156)"SPEED=■";(SP*3):IFSP<2THEN670
660 POKEL,INT(SP*7):GOTO540
665 REM [HOME] [YEL]
670 PRINT"■";SPC(25);"■STATIONARY ":SP=0:GOTO660
675 REM [HOME] [RVS ON] [RVS OFF]
680 PRINT"■";SPC(25)"■TOP SPEED■  ":RETURN
690 POKEV+6,X:POKEV+7,Y:POKEV+21,1
700 FORA=1TO20:POKEV+23,8:POKEV+29,0:POKEV+23,0:POKEV+29,0
710 POKES0,15:POKEW,129:POKEAT,255:POKEH,40:POKEL,200
720 POKEW,0:POKEAT,0:NEXT A
730 POKEV+21,7
740 POKEV,Y:POKEV+2,Y-30:POKEV+4,Y-70:POKEV+21,0
745 REM [CLR]
750 PRINT"■":PRINT
755 REM [10 CRSR RIGHTS] [BLU] [YEL]
760 PRINT"■■■■■■■■■■■YOUR SCORE IS ■";SC
770 IFSC=F(2)THEN790
780 GOSUB990:GOTO800
790 GOSUB1050
800 PRINTCHR$(28)"■■■■■■PRESS ■SPACE■ TO GO AGAIN "
810 POKE2040,202:X=50:POKEV+1,95:POKEV+21,1
820 POKEV,X:X=X+0.5:IFX=250THENX=50
830 IF PEEK(197)<>60THEN820
840 POKEV+21,7:PRINT"■":POKE2040,200:LI=6:HA=0:POKE650,0:RESTORE:GOTO30
850 LI=LI-1:RESTORE:RR=1:LN=1:POKEL,1:GOSUB50:RR=0
860 IFLI=5THENPOKEV+29,2
870 IFLI=4THENPOKEV+29,6
880 IFLI=3THENPOKEV+23,2
890 IFLI=2THENPOKEV+23,6
900 IFLI=1ANDHA=0THENHA=1:LI=6:POKEV+29,0:POKEV+23,0:GOTO930
910 IFLI=1ANDHA=1THENLI=LI-1:GOTO930
920 IFLI=0THEN940
930 PRINT"■":GOTO370
940 FORA=1TO20:POKE53281,INT(RND(1)*15):NEXT:POKE53281,0
950 PRINT"       YOU MADE IT"
960 PRINT:PRINT:PRINT:PRINT"NOW TRY AND BEAT IT"
970 FORA=1TO1000:NEXT:GOTO750
980 FORM=1TO12:D$(M)="?":F(M)=0:NEXT:RETURN
990 INPUT"INPUT YOUR NAME";D$(2):F(2)=SC
1000 X=0:FORI=1TO11:IFF(I)>F(I+1)THEN1020
1010 GOTO1030
1020 T=F(I):C$=D$(I):F(I)=F(I+1):D$(I)=D$(I+1):F(I+1)=T:D$(I+1)=C$:X=X+1
1030 NEXTI
1040 IFX<>0THEN1000
1050 PRINT:FORM=12TO2STEP-1:PRINTSPC(10);D$(M);"    ";F(M):NEXT:RETURN
READY.
```

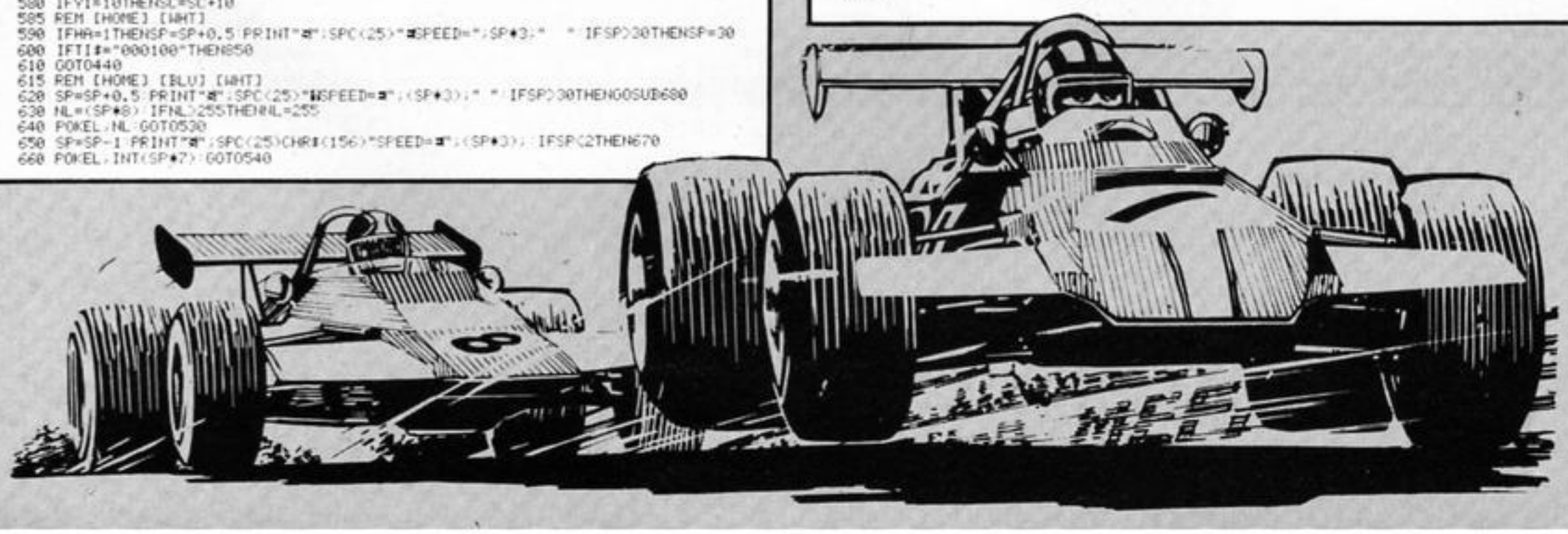
How it works

10-40 set variables and sound and input skill level
50-60 poke sprite data into memory
70-160 sprite data
170-330 show rules and start game
340-430 set screen display and X,Y sprite locations
440-610 main program, moves cars
620-640 make car go faster
690-840 make crash screen at end of game
850-930 change level after every 60 seconds
980 sets D$(12) to ? and F(12) to 0
990-1040 test to see if you have scored higher than the 10 highest scores
1050 print 10 highest scores

To accelerate you use the space bar, to decelerate you use key 2, to move right use 1 and to move left, use the left arrow.

Watch out, though — when you're changing speed you cannot move, and while you're stationary, you can't get any points!

When the game ends, pressing the space bar will let you play again.



TEXAS CRACKERS

A Selection Box

1 BLAST IT

Home Computing Weekly Rated★★★★★
Working against a time limit you must disarm several bombs, using a wire guided robot .Disarm in wrong order and bombs explode.Five levels of difficulty. Sound and graphics. A winner.

2 CORE

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We've got together with Richard Shepherd Software to offer 1,000 readers a Christmas present

No nose is bad nose for Rudolph

In this variation on an old party game, it's Rudolph's nose rather than a donkey's tail that has to be put back in the right place. Geoff Turner tells you how to play

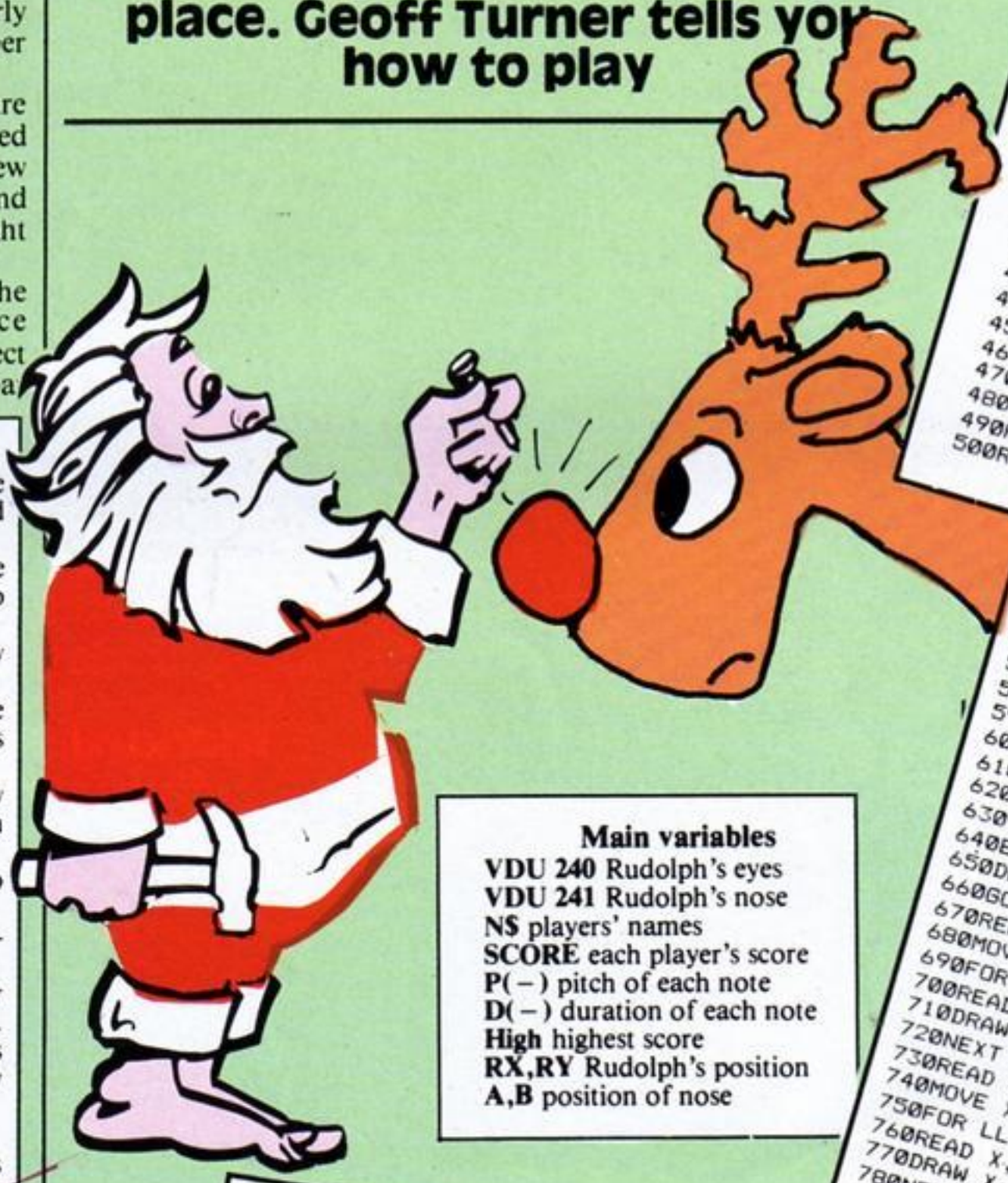
Most computer games are aimed at older children, while the very youngest members of the family tend to be neglected. This game is for the very young children.

It is a variation on the party game Pinning the Tail on the Donkey, but in this game, the object is to place Rudolph's nose in the correct position.

The rules of the game are fairly straightforward, and any number of children may take part.

The program draws a picture of Rudolph with his bright red nose in position. After a few seconds the screen is cleared and the nose is left at the bottom right hand corner of the screen.

Using the cursor keys, the player must then replace Rudolph's nose in the correct position. Pressing the space ba



How it works

40-120 short machine code routine to check if sound channel buffer is full
180-390 form main loop of the program, passing control to various PROCedures
400-850 PROCedures to draw Rudolph and house
860-910 PROCedure to give short pause at various points of program
920-1180 PROCedure to allow player to place nose in position
1190-1390 DATA statements to draw Rudolph and house
1400-1660 PROCedures to display titles and instructions
1670-1930 allow input of number of players and their names. Unusual method of input is used to allow music to play continuously
1940-2060 initialise variables
2070-2200 keep track of scores and display highest score at end
2210-2230 error reporting
2240-2290 PROCedure to play continuous music. Machine code routine is used to check if there is room in sound buffer. If there is, then another note is added to queue. **Note:** there are several calls to PROCmusic at various points in program, to ensure continuous output
2300-2360 data for musical notes

Main variables

VDU 240 Rudolph's eyes
VDU 241 Rudolph's nose
N$ players' names
SCORE each player's score
P(–) pitch of each note
D(–) duration of each note
High highest score
RX,RY Rudolph's position
A,B position of nose

```
10REM RUDOLPHS NOSE
20REM By Geoff Turner
30ON ERROR GOTO 2210
35REM MACHINE CODE FOR MUSIC
40P%=&D00
50[
60OPT2
70LDA#128
80LDX#250
90JSR&FFF4
100STX&80
110RTS
120]
130MODE7
140PROCINITIALISE
150PROCMUSIC
160PROCTITLES
170PROCINSTRUCTIONS
175REM MAIN LOOP
180MODE1
190GCOL0,135
200FOR P=1 TO I
210RX=RND(200):RY=RND(200)
220CLG
230RESTORE 1190
240PROCRUDOLPH(1)
250PROCMUSIC
260PROCHOUSE
270PROCPAUSE(500)
280CLG
290PROCPLACENOSE
300PROCSCORE
310RESTORE 1190
320PROCRUDOLPH(2)
330PROCMUSIC
340PROCHOUSE
350PROCPAUSE(500)
360NEXT
370MODE7
380PROCEND
390GOTO 150
400DEFPROCRUDOLPH(D)
410VDU4
420COLOUR1:COLOUR135
430PRINTTAB(1,1);N$(P);
440VDU29,RX;RY;
450GCOL0,0
460FOR LL=1 TO 15
470READ L,X,Y
480MOVE X,Y
490FOR I=1 TO L
500READ X,Y
510DRAW X,Y
520NEXT
530NEXT
540VDU5
550MOVE 280,410
560VDU240
570MOVE 330,410
580VDU240
590IF D=2 GOTO 630
600GCOL 0,1
610MOVE 296,260
620VDU241
630VDU4
640ENDPROC
650DEFPROCHOUSE
660GCOL0,0
670READ X,Y
680MOVE X,Y
690FOR LL=1 TO 28
700READ X,Y
710DRAW X,Y
720NEXT
730READ X,Y
740MOVE X,Y
750FOR LL=1 TO 3
760READ X,Y
770DRAW X,Y
780NEXT
790READ X,Y
800MOVE X,Y
810FOR LL=1 TO 4
820READ X,Y
830DRAW X,Y
840NEXT
850ENDPROC
860DEFPROCPAUSE(T)
870TIME=0
880REPEAT
890PROCMUSIC
900UNTIL TIME>T
```

terminates the movement, and then Rudolph is redrawn in his original position without his nose.

After each player has had his turn, the program calculates who was nearest, and displays the *winner's name*.

```
910ENDPROC
920DEFPROCPLACENOSE
930VDU4
940COLOUR1:COLOUR135
950PRINTTAB(1,1);N$(P);
960VDU5
970VDU29,0;0;
980A=1247:B=32
990MOVE A,B
1000GCOL0,1
1010VDU241
1020*FX4,1
1030REPEAT
1040AA=A:BB=B
1050PROCMUSIC
1060IF INKEY(-58)THEN B=B+4:GOTO 1110
1070IF INKEY(-42)THEN B=B-4:GOTO 1110
1080IF INKEY(-26)THEN A=A-4:GOTO 1110
1090IF INKEY(-122)THEN A=A+4:GOTO 1110
1100IF NOT INKEY(-99) GOTO 1050
1110MOVE AA,BB
1120GCOL0,7
1130VDU241
1140MOVE A,B
1150GCOL 0,1
1160VDU241
1170UNTIL INKEY(-99)
```

```
1180ENDPROC
1185REM DATA FOR RUDOLPH AND HOUSE
1190DATA 6,380,60,500,60,480,80,470,140,470,200,480,26
0,500,280
1200DATA 4,380,60,400,80,410,140,410,200,400,260
1210DATA 6,360,270,380,260,420,260,440,280,460,280,480
,300,500,300
1220DATA 13,480,260,560,240,640,240,680,250,700,260,72
0,280,780,300,780,60,720,60,740,80,750,140,750,200,740,
260,720,280
```

```
1230DATA 14,780,60,840,60,820,80,810,140,810,200,820,2
60,860,340,870,370,870,400,860,420,840,460,820,480,440,
480,400,460,380,440
1240DATA 1,440,60,440,280,1,400,80,480,80,1,740,80,820
,80
1250DATA 12,320,320,350,320,360,280,360,240,350,220,32
0,220,310,240,300,220,270,220,260,240,260,280,270,320,3
00,320
1260DATA 10,280,320,260,380,260,400,240,400,200,380,18
0,380,160,400,160,420,180,440,240,440,280,420
1270DATA 10,340,320,360,380,360,400,380,400,420,380,44
0,380,460,400,460,420,440,440,380,440,340,420
1280DATA 49,240,440,260,460,240,520,180,520,140,540,14
0,560,160,560,180,540,240,540,240,580,220,600,160,600,1
60,620
1290DATA220,620,220,680,180,680,200,700,240,680,260,72
0,280,700,250,660,250,620,260,580,260,520,280,480,340,4
80
1300DATA 360,520,360,580,380,620,380,660,360,680,360,7
00,360,720,380,680
1310DATA 420,700,440,680,400,660,400,620,450,625,450,6
05,400,600
1320DATA 380,540,440,540,460,560,480,540,460,520,460,5
20,380,520,360,460,380,440
1330DATA 1,180,420,240,420,1,380,420,440,420
1340DATA 7,820,480,880,440,940,380,960,380,960,400,900
,460,860,480,820,480
1350DATA 1020,600,950,600,950,650,970,650,950,670,970,
670,950,690,970,690,940,720
1360DATA 910,690,930,690,910,670,930,670,910,650,930,6
50,930,600
1370 DATA 800,600,800,700,820,700,800,720
1380DATA 630,720,630,740,620,740,620,720,600,720,580,7
00,600,700,600,600,500,600
1390DATA 630,600,630,650,650,650,650,600,700,640,700,6
80,750,680,750,640,700,640
1400DEFPROCTITLES
1410CLS
1420PRINT TAB(12,5);CHR$(141);"RUDOLPHS"
1430PRINT TAB(12,6);CHR$(141);"RUDOLPHS"
1440PRINT
1450PRINT TAB(14,8);CHR$(141);"NOSE"
1460PRINT TAB(14,9);CHR$(141);"NOSE"
1470PRINT TAB(9,11);CHR$(129);"By Geoff Turner"
1480PROCPAUSE(800)
1490ENDPROC
1500DEFPROCINSTRUCTIONS
1510CLS
1520PRINT:PRINT
1530PRINT"Rudolphs nose is a game similar to"
1540PRINT"pinning the tail on the donkey"
1550PRINT:PRINT
1560PRINT"Rudolph will be drawn on the screen "
1570PRINT"for a few seconds"
```

```
1580PRINT:PRINT
1590PRINT"When Rudolph disappears you must"
1600PRINT"move his nose into the correct position"
1610PRINT:PRINT
1620PRINT"Move Rudolphs nose using the arrow keys."
1630PRINT:PRINT
1640PRINT"Press the space bar when you have"
1650PRINT"finished moving the nose"
1660PROCPAUSE(1000)
```

```
1670CLS
1680*FX15,1
1690PRINT TAB(0,2);"HOW MANY PLAYERS ?";
1700I$=INKEY$(5)
1710PROCMUSIC
1720IF I$="" THEN 1700
1730I=VAL(I$)
1740PRINT I
1750FOR P=1 TO I:N$(P)="":NEXT
1760PRINT
1770PRINT"Each player must enter their name "
1780PRINT"then press RETURN"
1790PRINT
1800FOR P=1 TO I
1810*FX15,1
1820PRINTTAB(0,P+7);"Player number ";P;
1830I$=""
1840REPEAT
1850PROCMUSIC
1860I$=INKEY$(5)
1870PRINT I$;
1880N$(P)=N$(P)+I$
1890UNTIL INKEY(-74)
1900REPEAT PROCMUSIC:UNTIL NOT INKEY(-74)
1910NEXT
1920PROCPAUSE(50)
1930ENDPROC
1940DEFPROCINITIALISE
1950ENVELOPE 1,8,1,-1,1,1,1,1,121,-10,-5,-2,120,120
1960VDU23,240,112,152,152,152,152,152,152,112
1970VDU23,241,126,255,255,255,255,255,255,126
1980DIM N$(10),SCORE(10)
1990DIM P(111),D(111)
```

```
2000HIGH=2000
2010RESTORE 2310
2020FOR note=1 TO 110
2030READ P(note),D(note)
2040NEXT
2050note=0
2060ENDPROC
2070DEFPROCSCORE
2080SCORE(P)=ABS(A-(296+RX))+ABS(B-(RY+260))
2090IF SCORE(P)<HIGH THEN HIGH=SCORE(P):HI$=N$(P)
2100ENDPROC
2110DEFPROCEND
2120PRINTTAB(0,2);CHR$(141);"THE NEAREST TO RUDOLPHS N
OSE WAS"
2130PRINTTAB(0,3);CHR$(141);"THE NEAREST TO RUDOLPHS N
OSE WAS"
2140PRINTTAB(10,9);CHR$(141);HI$
2150PRINTTAB(10,10);CHR$(141);HI$
2160PRINTTAB(2,20);"PRESS SPACE BAR TO PLAY AGAIN."
2170REPEAT
2180PROCMUSIC
2190UNTIL INKEY(-99)
2200ENDPROC
2210MODE7:REPORT:PRINT" AT ";ERL
2220*FX4,0
2230END
2240DEFPROCMUSIC
2250CALL &D00
2260IF ?&80=0 THEN ENDPROC
2270note=note+1:IF note=111 THEN note=1
2280SOUND 1,1,P(note),D(note)
2290ENDPROC
2300REM MUSIC DATA
2310DATA 129,5,137,5,129,10,117,10,149,10,137,10,129,4
0,129,5,137,5,129,5,137,5,129,10,149,10,145,40,121,5,12
9,5,121,10,109,10,145,10,137,10,129,40
2320DATA 129,5,137,5,129,5,137,5,129,10,137,10,117,40,
129,5,137,5,129,10,117,10,149,10,137,10,129,30,129,5,13
7,5,129,5,137,5,129,10,149,10,145,40
2330DATA 121,5,129,5,121,10,109,10,145,10,137,10,129,4
0,129,5,137,5,129,5,137,5,129,10,157,10,149,40,137,10,1
37,10,149,10,137,10,129,10,117,10,129,20
2340DATA 121,10,137,10,129,10,121,10,117,40,109,10,117
,10,129,10,137,10,145,10,145,10,145,20,149,10,149,10,14
5,10,137,10
2350DATA 129,10,121,10,109,20,129,5,137,5,129,10,117,1
0,149,10,137,10,129,40,129,5,137,5,129,5,137,5,129,10,1
49,10,145,40
2360DATA 121,5,129,5,121,10,109,10,145,10,137,10,129,4
0,129,5,137,5,129,5,137,5,129,10,157,10,149,80
>
```

LUNAR JETMAN – 48K ZX Spectrum

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These games should be available from **W.H. SMITHS, BOOTS, JOHN MENZIES, LASKYS, SPECTRUM CENTRES,** other **large department stores** and all good **major software retailers.** Alternatively, send the coupon to **ULTIMATE PLAY THE GAME** for immediate dispatch by return, subject to availability.

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Try our micro mind bender

How well do you know Sir Clive Sinclair and the home computer boom he helped to create? Our quiz will test your knowledge

Think you're pretty clever, do you? Think you know a lot about the man who designed the box of tricks on which you've been playing arcade games? About the industry that has grown up around it?

Well, here is a fun and festive quiz to test your knowledge. There are no prizes.

Without checking anywhere, answer a, b, c or d to the following questions.

If you have read every issue of HCW you should be able to easily complete the quiz.

Your ratings

23 you are a genius or a cheat
20-22 you should be on Sinclair's staff
17-21 quite clever
12-16 not bad at all
7-11 haven't been paying attention, have we?
2-6 are you sure you use a Sinclair computer?
1 you'd be better off with an abacus!

No-one could have score zero, could they? **Could they?**

The man himself — Sir Clive Sinclair

1 When was he born?
a 1962
b 1954
c 1940
d 1943

2 Where was he mainly educated?
a Cambridge
b London
c Weybridge
d Dundee

3 For how many years was he a technical journalist?
a four
b six
c two
d 10

4 What are the conversion costs for Sir Clive's luxury new home in London?
a £100,000
b £200,000
c £300,000
d £400,000

The company

5 When was Sinclair Research formed?
a 1978
b 1979
c 1980
d 1970

6 What was the name of Sir Clive's first company?
a Sinclair Research
b Sinclectronics
c Sinclair Electronics
d Sinclair Radionics

7 What was the first product from Sinclair Research?
a The pocket calculator
b The Black Watch
c The ZX80
d cheap hi-fi equipment

The computers

8 The ZX Spectrum is based around an advanced
a 14-chip design
b four-chip design
c seven-chip design
d Space Invaders Master Control Chip

9 What was the original price of the ZX80?
a £100
b £69.95
c £99.95
d £120.99

10 The ZX Spectrum can transmit information
a five times faster than the ZX81
b at the same speed as the ZX81
c 10 times faster than the ZX81
d six times faster than the ZX81

11 How many months before the Spectrum was the ZX81 launched?
a 10
b 12
c 13
d 14

12 On average, how much does the ZX81 starter pack now cost?
a £65
b £50
c £45
d £20

The rest

13 The author of the classic ZX81 program Mazogs later went on to write:
a Manic Miner
b Spectral Invaders
c Maziacs
d Jetpac

14 Beam Software is an alliance between two software houses. Which two?
a Melbourne House and Psion
b Quicksilva and Bug-Byte
c Quicksilva and Ultimate
d Psion and Micro-Gen

15 What game or games is Beam Software credited for?
a just Penetrator
b just the Horace series
c The Hobbit, Penetrator and the Horace series
d the Horace series and Penetrator

16 Who wrote, among others, 3D Monster Maze and Corridors of Genon?
a Malcolm Evans
b J. K. Greye
c J. K. Evans
d Malcolm K. Greye

17 Who wrote the best-seller Manic Miner?
a Mark Smith
b Mark Page
c Matthew Smith
d Matthew Page

18 Which company markets a game called Dictator for the ZX81?
a dk'Tronics
b Bug-Byte
c Richard Shepherd
d Quicksilva

19 Quicksilva director Mark Eyles is writing a book about:
a starting a software company
b the ZX Spectrum's CPU
c the chess-playing computer
d the Falluvian Empire

20 Ocean markets several arcade-like games. Which of the following originals is not in its range?
a Burgertime
b Q*Bert
c Donkey Kong
d Space Panic

21 Ultimate Play the Game is at The Green in:
a Ashby
b Zoucu
c Zouch
d Ashby de la Zouch

22 Who is the author of Imagine's Arcadia and Ah Diddums?
a Eugene Evans
b John Gibson
c Mark Butler
d Dave Lawson

23 Silversoft's Orbiter is a version of:
a Defender
b Scramble
c Asteroids
d Star Trek

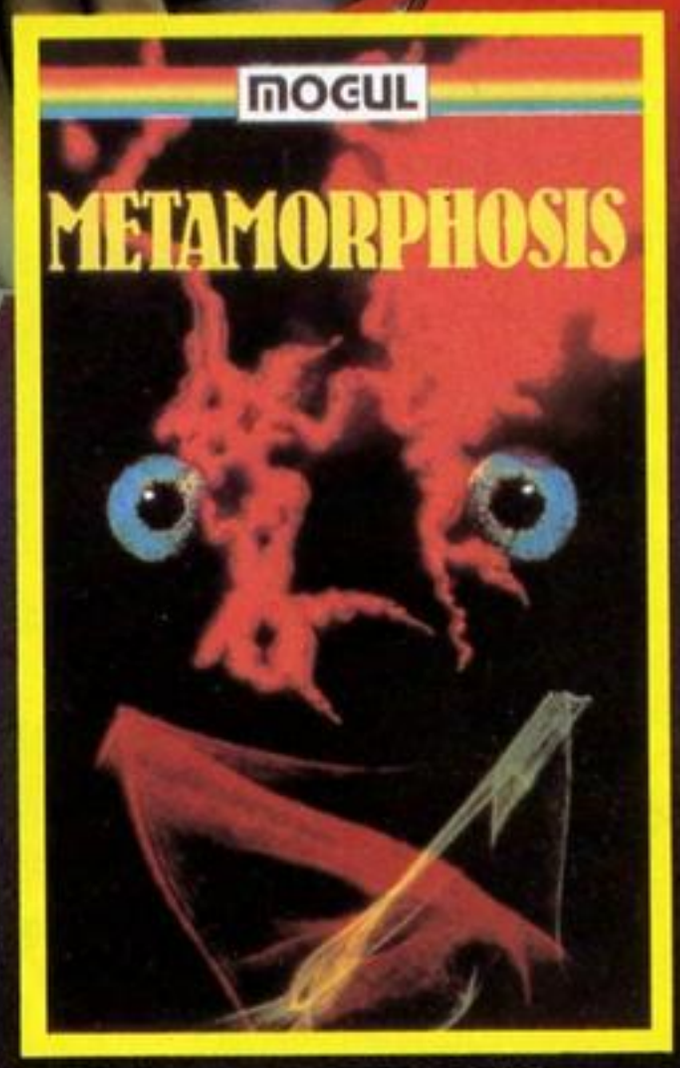
24 Timegate is produced by:
a Mogul
b Bug-Byte
c Quicksilva
d C.R.L.

Quiz answers

1 d	2 c	3 a	4 d	5 a
6 c	7 a	8 b	9 c	10 a
11 c	12 a	13 c	14 a	15 c
16 a	17 c	18 b	19 a	20 b
21 d	22 d	23 a	24 c	

MOGUL

THE HOTWARE PEOPLE



METAMORPHOSIS

You stumbled into the nest of the **Cyglorx** and find yourself fighting off robot tanks guarding the **Cyglorx eggs.** You think you have everything under control and then the eggs start **hatching.** Commodore 64 version features 4 different screens.

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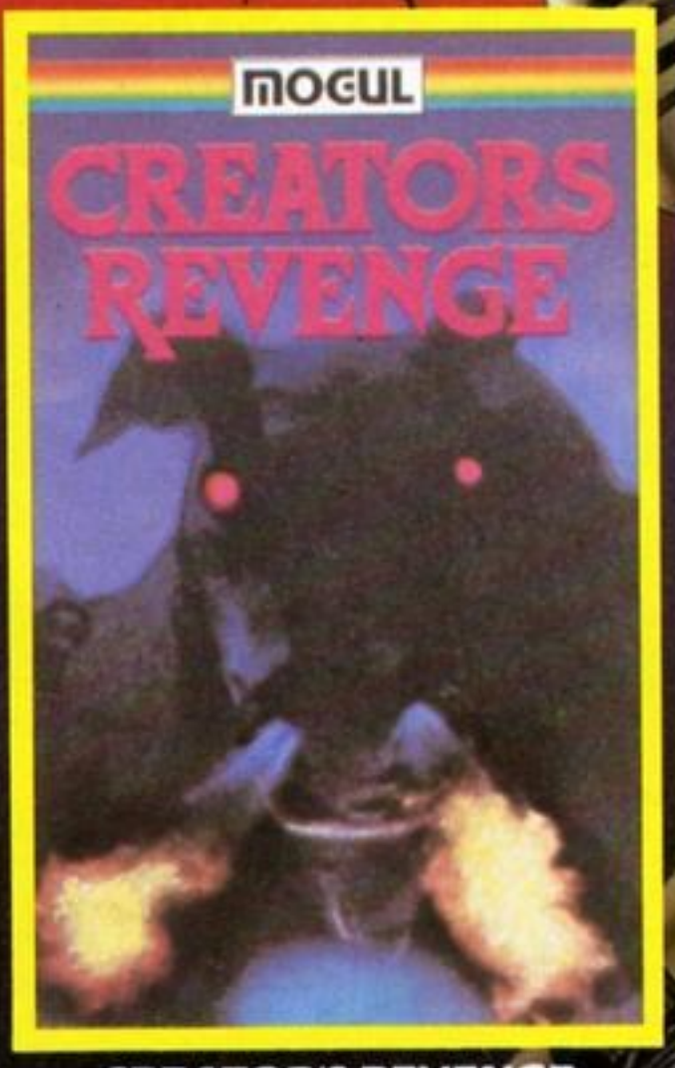

CREATOR'S REVENGE

The creator assembled a massive army of **robots** and **insects** to take revenge on the earth. Destroy insects, get treasures, and get the **neutron bomb deactivator.** Battle robots and **destroy** the neutron bomb before it annihilates your city. Miss and you must face **the mutants.** Features 4 different screens.

COMMODORE 64
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OTHER GAMES AVAILABLE

MOGUL COMMUNICATIONS LIMITED
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Sort out Santa's present muddle

A snowstorm has blown away all the labels on Father Christmas's parcels. David Nowotnik explains how you can help

In this program for the Oric 1, Father Christmas has a problem in delivering his presents.

Santa loads up his sleigh with 10 presents. They are all carefully labelled with the recipient's name, and these are shown on the screen, with the contents of each parcel, at the start of the game.

You get 30 seconds to memorise the list (you'll need to remember this to help Santa later), then off you go on his sleigh.

Main variables

A number of names and presents
E(), D() indicator arrays
K a random number
NLS array holding 10 selected names
NMS array holding all available names
PL indicator array
PLS array holding the 10 selected presents
PRS array holding all available presents
SC score
T counter
T() sleigh character codes
W input variable
X,Y column position of sleigh

The journey south is depicted on the screen. The sleigh and reindeer will appear at the top of the screen, and you must imagine that you are above the sleigh, looking down at it.

The journey starts quietly enough, then all of a sudden you run into a snow storm with giant flakes of snow.

You have to help Santa to guide his sleigh through the snow storm, avoiding the snow flakes. You use the left and right cursor control keys to move the sleigh.

Every time you hit a snow flake you'll hear a crash, and a point will be deducted from your eventual score. The sleigh won't be damaged by the snow, but the object is to minimise the number of collisions.

Once you are through the snow storm, Father Christmas has to deliver the presents. But this is where he runs into another problem.

On the rough journey south, all the labels have been blown away, and he doesn't know which present to deliver to which house. You'll have to help him.

A list of all the presents appears on the screen. As you come to a house, Santa will tell you who lives there, you have to tell him which present to deliver by entering the number beside the present which you think should be delivered.

Once all 10 have been delivered, then you are shown your list, and the correct list. You'll get two points for every present delivered, and a point deducted for every snow flake you hit on the journey south.

The object, of course, is to achieve a maximum score of 20. The game is a test of memory with the snow storm acting as a distraction.

How it works

10-110 initialise main variables for guessing game
120-170 PRINT 10 selected names and presents on screen
190 30 second delay
1000-1070 initialise main variables for snow storm game
1120-1130 check for valid keypress
1140-1160 remove sleigh from screen
1170 scroll screen
1180-1200 check if hit by snowflake, and reprint sleigh
1220-1250 print snowflakes
1270-1350 print score of snowflake game
1440-1460 start guessing game — initialise
1470-1660 print name, present list, enter, check selection
1670-1780 print player's selection, and correct list — award points

In the program listing, there are 16 names and presents in data lines 5000 and above. In every game, 10 of these are selected at random.

To increase the interest in the game, you should add more names and presents.

To do this, add more DATA lines, each containing a name and present, and replace the number in the DATA line 5000 with the new total of names and presents.

```
10 REM  Christmas Snow Storm
20 REM     by David Nowotnik
30 REM       December, 1983
40 REM
50 REM  Initialise
60 REM
70 READA
80 DIMNM$(A),PR$(A)
90 DIMPL(A),NL$(10),PL$(10)
100 POKE618,10:PAPER7:INK0
110 FORI=1TOA:READNM$(I),PR$(I):NEXT
120 CLS:PRINT:PRINT,"Santa's Present List":PRINT:PRINT
50 FORI=1TO10
140 K=INT(RND(1)*A)+1:IFPL(K)=1THEN140
150 PRINTNM$(K),PR$(K)
```

```
160 NL$(I)=NM$(K):PL$(I)=PR$(K)
170 PL(K)=1:NEXTI
180 PRINT:PRINT:PRINT,"You have 30 seconds to",,,"remem
ber this lis
t"
190 PING:WAIT3000
200 PING:CLS
210 PRINT:PRINT:PRINT:PRINT"  O.K. Off we go with those
 presents"
220 WAIT500
1000 REM    Snow storm
1010 X=15:SC=0:T=0
1020 INK7:PAPER0:CLS
1050 FORI=1TO28:PRINT:NEXT
1060 DIMT(3)
```

ORIC CHRISTMAS PROGRAM

```
1070 T(1)=160:T(2)=35:T(3)=35
1100 REPEAT
1110 Y=X
1120 IFPEEK(520)=172ANDX>0THENX=X-1
1130 IFPEEK(520)=188ANDX<38THENX=X+1
1140 FORJ=1TO3:REM Remove Sleigh from screen
1150 POKE48082+Y+40*J,32
1160 NEXT
1170 PRINT:T=T+1:REM Move up snowflakes
1180 FORJ=1TO3:REM Detect hit and reprint sleigh
1190 IFPEEK(48082+X+40*J)<>32THENSC=SC+1:EXPLODE
1200 POKE(48082+X+40*J),T(J):NEXTJ
1210 IFT<10ORT>90THENWAIT5:GOTO1260
1220 REM  Print snowflakes
1230 FORI=1TO2+INT(4*RND(1))
1240 POKE49042+INT(RND(1)*37),42
1250 NEXTI
1260 UNTILT=115
1270 PRINTCHR$(30):PRINT:PRINT:PRINT:PRINT:PRINT
1280 PRINT,"You are through the storm"
1290 PRINT:PRINT
1300 IFSC>1THEN1340
1310 IFSC=1THEN1330
1320 PRINT,"You avoided all snowflakes":GOTO1350
1330 PRINT,"You struck just 1 snowflake":GOTO1350
1340 PRINT,"You struck ";SC;" snowflakes"
1350 WAIT500
1360 PRINT:PRINT:PRINT" Now lets deliver the presents."
1370 PRINT:PRINT" Remember, Santa has forgotten which"
1380 PRINT"present belongs to which child. When"
1390 PRINT"you come to a house, Santa will give"
1400 PRINT"you the name, you have to select the"
1410 PRINT"right present."
1420 PRINT:PRINT:PRINT"    Press any key to start"
1430 IFPEEK(520)=56THEN1430
1440 PAPER7:INK0:CLS:PRINTCHR$(17)
1450 DIME(10),D(10)
1460~SC=-SC:T=0
1470 FORI=1TO10
1480 CLS
1490 K=1+INT(RND(1)*10):IFE(K)=1THEN1490
1500 PRINT:PRINT" Child's name is ";NL$(K)
1510 E(K)=1
1520 PRINT:PRINT:PRINT
1530 FORJ=1TO10
1540 IFD(J)<>0THEN1560
1550 PRINTJ,PL$(J)
1560 NEXT
1570 PRINT:PRINT:PRINT"    Enter the number of the toy
for"
1580 PRINTNL$(K)
1590 PRINT:PRINT
1600 INPUTW
1610 IFW<1ORW>10ORW<>INT(W)THEN1600
1620 IFD(W)<>0THEN1600
1630 PRINT:PRINT"Present ";PL$;" is delivered"
1640 IFW=KTHENT=T+1
1650 WAIT400:D(W)=K
1660 NEXTI
1670 CLS:PRINT:PRINT"  Compare your list on the right w
ith"
1680 PRINT"the correct list in the centre."
1690 PRINT:PRINT
1700 FORI=1TO10
1710 N$=NL$(I)
1720 FORJ=1TOLEN(N$):A$=MID$(N$,J,1):PRINTA$;:IFA$=" "T
HEN1740
1730 NEXTJ
1740 PRINT:PRINTSPC(10);CHR$(11);PL$(I):PRINTSPC(25);CH
R$(11);PL$(D
(I))
1750 NEXTI
1770 PRINT:PRINT"    You got ";T;" right"
1780 PRINT:PRINT"    Your final score is ";SC+2*T
5000 DATA16
5010 DATAJohn Smith,Train Set
5020 DATAHarry Todd,Model Car
5030 DATADavid Carter,Bicycle
5040 DATARon Brown,Toy Fort
5050 DATACarol Daly,Fluffy Bunny
5060 DAT~Claire Roberts,Doll
5070 DATASylvia Black,Doll's Pram
5080 DATAAileen Gray,Noddy Book
5090 DATAHenry Forrest,Video Games
5100 DATAWilliam Batey,Scalextrix
5110 DATAKevin Vincent,Big Trak
5120 DATACharlie Knight,Home Computer
5130 DATAJackie Drummond,Typewriter
5140 DATAFrancis White,Tea Set
5150 DATAMarilyn Jones,Doll's House
5160 DATAKathy Morgan,Painting Set
```


. MST . . . MST . . . MST . . . MST . . . MST . . . MST . . . MST .

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BBC CHRISTMAS PROGRAM

You wouldn't want anyone to go without presents, would you? Type in this game to give Father Christmas a hand. Martin Hollis, aged 12, wrote it for the 32K BBC Computer

It's Christmas Eve and now is your chance to help Father Christmas deliver a pile of presents to one last house. Unfortunately the house is on the other side of a fir forest and his reindeer cannot get through the trees, so he has to walk.

He is so tired by now that he can only carry one present at a time and has to make endless journeys through the forest to deliver his presents.

The first present is quite easy to deliver. All he has to do is avoid bumping into the trees and when he enters the door of the house his present is safely delivered and he is whisked back to his base by magic.

However, the next time he makes the journey the forest is thicker and when he has delivered the present he finds his magic has run out. He has to return on foot to collect the next present and then trudge back to the house to deliver it (that is if he can do it all in the time allowed).

After delivering the second present he finds his magic has been restored and he is again back at base, ready for a new go.

Unfortunately he now has three presents to deliver and now his magic will only bring him instantly back to base after delivering all three presents having trudged through the forest a total of five times... and so it goes on with more presents and thicker forests each time until eventually he loses all three lives.

How many presents can you help him deliver before he runs out of time or loses a turn by crashing into a tree?

He has a total of three lives in each game which are lost either by crashing into a tree which then becomes an impassable shrub or by running out of his bonus (time).

At the start of the game the title and instructions are displayed with an appropriate jingle. The operating keys — S and X for up and down, and the less than and greater than keys for left and right — are displayed and you are given the option of sound or silent running.

At the end of each journey the score is displayed, while a new bonus(time limit) starts running for the next journey. When all three lives are lost the hi-score is displayed.

The game will run on a 32K BBC micro only. Most of the memory is used as the game is in Mode 1 so when typing in the program avoid all unnecessary spaces and do not add any extra ones.

Good luck. I hope you're not too tired to have a Happy Christmas!

How it works

10-50 initialisation, instructions
60 set up screen, give Santa a present
100 increment score for delivering present
120 finish if out of lives or all presents delivered
150 reset Santa and give him a present, draw more trees
160-240 instructions for PROCs
250 DATA for graphics
260-280 centre text
290-350 draw trees on screen
360-560 set up graphics
570-630 movement routines
640-670 check if Santa has hit tree and still has time
680-710 sound
720-780 end game routine

Main PROCedures

PROCINST displays instructions, title, plays opening jingle
PROCVDU23 defines all VDU23 statements
PROCSCR draws screen
PROCCHECK checks to see if Santa's three lives gone or not and, if so, calls PROCsplat
PROCMOVE moves and plots Santa and his present
PROCTUNE plays random tune on delivery of present
PROCSPLAT end if Santa has crashed into a tree or has run out of time

Main variables

A% general loop counter
B% bonus or time left
C%, D% counters for random tune
G% true if Santa has present to deliver
H% No. of presents to be delivered
I% hi-score
L% lives left
M% true if greater than or less than keys pressed
P% presents delivered
T% loop counter for opening jingle
V% volume setting (0 or −15)
X%, Y% trees X. Y co-ordinates
S% score
ED% true if game is to end
P% (DIMed 39 by 29) object at that position
Y%(0), Y%(1), Y%(2), Y%(3) Santa's X,Y co-ordinates; old X,Y co-ordinates
G$ Y or N for sound on/off or another game
B$, M$, R$, T$ bottom floor, middle floor, roof, top floor of house

```
10 I%=0
20 CLEAR:DIMP%(39,29),Y%(3)
30 REPEAT
40 PROCINST:H%=0
50 ED%=0:Y%(0)=39:Y%(1)=28:Y%(2)=39:Y%(3)=28:S%=0:H%
=H%+1:P%=0:L%=3:G%=-1:B%=500
60 MODE1:PROCVDU23:PROCSCR:PROCSCR:PROCSCR
70 REPEAT
80 PROCCHECK
90 PROCMOVE
```

BBC CHRISTMAS PROGRAM

```
  100 IFY%(0)=39ANDY%(1)=29G%=-1
  110 IFY%(0)=2ANDY%(1)=4ANDG%S%=S%+(B% DIV 20)+(H%*5):
PRINTTAB(0,0);"SCORE=";S%:P%=P%+1:G%=0
  120 P%(39,28)=0:UNTILP%=H% OR ED%
  130 IFED%THEN770
  140 PROCTUNE
  150 Y%(0)=39:Y%(1)=28:H%=H%+1:P%=0:G%=-1:B%=(H%*200)+
300:PROCSCR:GOTO70
  160 DEFPROCINST
  170 VDU22,7
  180 PRINT'''';PROCM(CHR$(141)+"FATHER CHRISMAS");PROCM
(CHR$(141)+"FATHER CHRISMAS"):PRINT'''';PROCM("BY MARTI
N HOLLIS"):PRINTTAB(0,23);"Press any key for instructio
ns":G=GET:CLS
  190 PRINT'''"You have to go through the woods to the
door of the house to deliver your Xmas presents. If yo
u crash into a tree you "
  200 PRINT"turn into a shrub which blocks your pathand
 also lose a life. You also lose a  life when your Bon
us runs out. If you  succeed you then have to deliver
two  presents, returning to the start on footto colle
ct the next present."
```

```
  210 PRINT';PROCM("S      for    UP");PROCM("X      for
  DOWN");PROCM("<      for    LEFT");PROCM(">      for R
IGHT");PRINT'
  220 PROCM("Sound Y/N?");REPEAT:G$=GET$:UNTILG$="Y"ORG
$="N":IFG$="Y"V%=-15ELSEV%=0
  230 IFV%=-15RESTORE250:FORT%=0TO29:READA%,B%:SOUND1,-
15,A%,B%:SOUND1,0,0,1:NEXT
  240 ENDPROC
  250 DATA101,8,121,8,121,8,121,4,129,4,121,4,117,4,109,8,109
,8,109,8,129,8,129,4,137,4,129,4,121,4,117,8,101,8,101,
8,137,8,137,4,141,4,137,4,129,4,121,4,117,8,101,8,101,
,109,8,129,8,117,8,121,16
  260 DEFPROCM(M$)
  270 PRINTTAB(20-(LEN(M$)/2));M$
  280 ENDPROC
  290 DEFPROCSCR:FORA%=0TO5:P%(A%,1)=2:P%(A%,2)=2:P%(A%
,3)=2:P%(A%,4)=2:P%(A%,5)=2:NEXT:P%(39,28)=3:P%(2,4)=0
  300 FORA%=0TOH%+1*10
  310 VDU19,2,2,0,0,0:COLOUR2:REPEAT
  320 X%=RND(39)-1:Y%=RND(29)-1:UNTILP%(X%,Y%)=0ANDP%(X
%,Y%+1)=0ANDP%(X%+1,Y%+1)=0ANDP%(X%+1,Y%)=0
  330 PRINTTAB(X%,Y%);:VDU241,242,8,8,10,243,244
  340 P%(X%,Y%)=1:P%(X%,Y%+1)=1:P%(X%+1,Y%)=1:P%(X%+1,Y
%+1)=1:NEXT:COLOUR1:PRINTTAB(0,1);R$'T$'M$'B$
  350 P%(39,28)=0:P%(3,5)=0:FORA%=0TO4:P%(5,A%)=0:P%(A%
,5)=0:NEXT:P%(5,5)=0:ENDPROC
  360 DEFPROCVDU23:VDU23;8202;0;0;0;
  370 VDU23,224,28,28,8,127,8,20,34,65
  380 VDU23,225,0,0,0,28,28,28,0,0
```

```
  390 VDU23,230,60,126,255,255,255,126,24,60
  400 VDU23,241,0,1,1,1,3,3,7,15
  410 VDU23,242,0,128,128,128,192,192,224,240
  420 VDU23,243,15,31,63,127,1,1,1,3
  430 VDU23,244,240,248,252,254,128,128,128,192
  440 VDU23,245,0,0,0,0,0,0,7,63
  450 VDU23,246,0,0,0,3,31,255,255,255
  460 VDU23,247,0,24,255,255,255,255,255,255
  470 VDU23,248,0,0,0,192,248,255,255,255
  480 VDU23,249,0,0,0,0,0,0,224,252
  490 VDU23,250,255,255,255,255,255,255,255,255
  500 VDU23,251,255,255,255,0,0,0,0,0
  510 VDU23,252,255,255,255,255,241,241,241,255
  520 VDU23,253,255,255,255,255,143,143,143,255
  530 VDU23,254,255,241,241,241,255,255,255,255
  540 VDU23,255,255,143,143,143,255,255,255,255
  550 R$=CHR$245+CHR$246+CHR$247+CHR$248+CHR$249:T$=STR
ING$(5,CHR$250):M$=CHR$252+CHR$253+CHR$251+CHR$252+CHR$
253:B$=CHR$254+CHR$255+" "+CHR$254+CHR$255
  560 ENDPROC
  570 DEFPROCMOVE:M%=0:VDU5:GCOL0,0:MOVEY%(0)*32,1024-(
Y%(1)*32):VDU225:VDU4
  580 PRINTTAB(0,0);"SCORE=";S%;TAB(15,0);"LIVES=";L%;T
AB(28,0);" BONUS=";B%;" "
  590 Y%(2)=Y%(0):Y%(3)=Y%(1):IFINKEY(-103)ANDY%(0)>0Y%
(0)=Y%(0)-1:M%=-1ELSEIFINKEY(-104)ANDY%(0)<39Y%(0)=Y%(0
)+1:M%=-1
  600 IFINKEY(-82)ANDY%(1)>2ANDNOTM%Y%(1)=Y%(1)-1ELSEIF
INKEY(-67)ANDY%(1)<29ANDNOTM%Y%(1)=Y%(1)+1
  610 COLOUR1:PRINTTAB(Y%(2),Y%(3));" ";TAB(Y%(0),Y%(1)
);CHR$(224);
  620 IFG%VDU5:GCOL0,3:MOVEY%(0)*32,1024-(Y%(1)*32):VDU
225:VDU4
  630 B%=B%-1:ENDPROC
  640 DEFPROCCHECK:IFB%<1B%=0:GOTO670
  650 IFP%(Y%(0),Y%(1))=0ENDPROC
  660 IFP%(Y%(0),Y%(1))=2COLOUR1:PRINTTAB(0,1);R$'T$'M$
'B$:Y%(0)=Y%(2):Y%(1)=Y%(3):ENDPROC
  670 PROCSPLAT:ENDPROC
  680 DEFPROCTUNE:IFV%=0ENDPROC
  690 FORA%=0TORND(2)+3
  700 REPEAT:C%=RND(255):D%=RND(255):UNTILD%<>C%:FORB%=
C%TOD%STEPSGN(D%-C%)*RND(3):SOUND1,-15,B%,0:NEXT:NEXT
  710 ENDPROC
  720 DEFPROCSPLAT
  730 SOUND0,V%,4,20:FORA%=0TO100:PRINTTAB(Y%(0),Y%(1))
;CHR$(34+RND(4)):NEXT:L%=L%-1:IFL%<1 ED%=-1
  740 COLOUR2:PRINTTAB(Y%(2),Y%(3));CHR$(230);TAB(Y%(0)
,Y%(1));CHR$(230):P%(Y%(2),Y%(3))=1
  750 IFB%<1B%=H%*200+300
  760 Y%(0)=39:Y%(1)=28:Y%(2)=39:Y%(3)=28:ENDPROC
  770 CLS:IFS%>I%I%=S%
  780 PRINT"   YOU ARE DEAD!"'"YOU WERE KILLED ON LEVEL
 ";H%'"YOUR SCORE WAS ";S%''"HIGH SCORE IS ";I%''"ANOTH
ER GAME Y/N":REPEAT:G$=GET$:UNTILG$="Y"ORG$="N":IFG$="Y
"THEN20
```

ast few presents

A breath of fake fresh air

After your Christmas dinner, what about some nice brisk exercise? No? Then fool yourself you're getting out and about with these simulation games

Everest Ascent
CBM 64 £6.50

Richard Shepherd, 3-25 Elmshott Lane, Cippenham, Slough

Not so much an adventure, more of a simulation. The idea of the game is to lead a team of sherpas on an ascent of Mount Everest.

You start off with £1,000 which is used to hire sherpas, and buy equipment and food. You may receive further funds during the game to put to a similar use.

A certain amount of mental acrobatics are necessary to ensure that you keep enough cash to pay your sherpas and buy enough food to feed them.

In keeping with any game worth its salt, there is more useful equipment on sale than you can afford.

Once equipped, you charge off up the mountain, making camps as you see fit and negotiating crevasses, rock faces etc. You will generally need a particular piece of equipment to pass an obstacle.

As usual, the game is a race against time; do I reach the summit before running out of food, cash or equipment?

The use of graphics and sound were minimal and mediocre. There were certain weaknesses in display of data but overall it was tolerably sound. It won't drive you mad with excitement, but overall a nice complex game which will keep the brain twitching for some time. **A.W.**

instructions	80%
playability	65%
graphics	40%
value for money	75%

★ ★ ★ ★

Spectrum Bowls
48K Spectrum £5

Lotus-soft, 43 Maes Road, Llangennech, Llanelli, Dyfed SA14 8UH

The program itself is quite clever, user-friendly and graphical.

The problem is, it is written in BASIC, so there are a few limitations: firstly speed, and secondly sound and vision. The program is full of BEEP commands which become very irritating after a short while.

In play you must first choose your direction to throw by moving a 'cursor' (which is in fact a line which points towards the jack), and pressing enter.

Then you must press b to bowl and a 'weight' at which you wish to throw. A small pixel will rush up the screen and, with any luck, position itself next to the jack.

If it hits something then everything flies off in different directions as it would in a normal game.

If something hits something, which in turn hits something else, though, I suspect the program may not quite be doing what it is supposed to.

When the bowls have all stopped rolling, you can get an enlargement which shows more clearly what is happening at the other end of the screen. **P.S.**

instructions	85%
playability	67%
graphics	58%
value for money	60%

★ ★ ★

Golf
TI-99/4A £8

Stainless Software, 10 Alstone Road, Stockport, Cheshire SK4 5AH

This is probably the best golf game that I have ever seen on a computer.

The course played on has 18 holes and, not surprisingly, is in Texas. It has a par of 72.

The player has a choice of 14 clubs — four woods, nine irons and a putter.

All the usual hazards are there: rough, trees, water and bunkers.

After you enter your handicap, the hole is drawn on the screen. The graphics used to do this are excellent.

The par of the hole, the number of shots that have been taken and the length of the hole are all shown at the top of the screen.

When the ball is hit, it can be faded down the screen, drawn up the screen or shot straight towards the hole.

My only criticism would be that when the ball has landed in a bunker, it cannot be seen. This is because both bunker and ball are white.

When you manage to hit the ball on to the green, the display of the fairway is cleared from the screen and is replaced by a larger scale picture of the green.

An indication of the speed of the green is also displayed. **J.J.**

instructions	
playability	90%
graphics	90%
value for money	95%
	95%

★ ★ ★ ★ ★

Soccer Supremo
TI-99/4A £8

Dromeda, 56 Wells Street, Haslingden, Rossendale

You have a choice of managing one of eight fourth division sides and your job is to take your team from the fourth to the first division.

You start with £100,000, and this will vary as you play according to the gate money received each week, the players' wages and on whether you buy or sell players.

Numerical ratings are given for team spirit, overall performance and individual players' ability and fitness. These ratings are compared with your opponents', and your team may be selected from a squad of not more than 16 players.

The ratings change throughout the season, so it is up to you to select your best team from the squad available.

At any time a player may be unavailable through injury or may need to be rested due to a low fitness rating.

You may sell a player at any time, and you are occasionally given the opportunity to buy.

If finances run low a loan may be obtained but must be paid back by the end of the season.

There are lots of things to think about, but thanks to a very detailed set of on-screen instructions you will soon get the hang of it. **D.B.**

instructions	95%
playability	90%
graphics	n/a
value for money	90%

★ ★ ★ ★ ★

T.I. Cricket
TI-99/4A £8

Dromeda, 56 Wells Street, Haslingden, Rossendale

This is a text-only game based on the rules of limited overs cricket.

Two teams are involved, England and the West Indies. However, one side of the tape contains an instruction programme with details of how to alter the teams and players so you can have your favourite county or test sides in the game.

Turning the tape over enables you to enter the game itself. You select which side bats first and how many overs are to be bowled in the match.

The list of players is shown together with numerical ratings indicating their batting ability against certain types of ball, i.e. pace, spin or swing.

The two opening batsmen are then selected and are shown on a "cricket scoreboard" type of screen display.

You choose a bowler from a list of 11 and again their ability to bowl the three types of ball are indicated numerically.

You then decide whether to bowl a pace, spin or swing ball and where to place the ball, i.e. on wicket, leg stump or off stump.

The result of the selection is given by the number of runs scored or the batsman being given out. **D.B.**

instructions	90%
playability	80%
graphics	n/a
value for money	80%

★ ★ ★ ★

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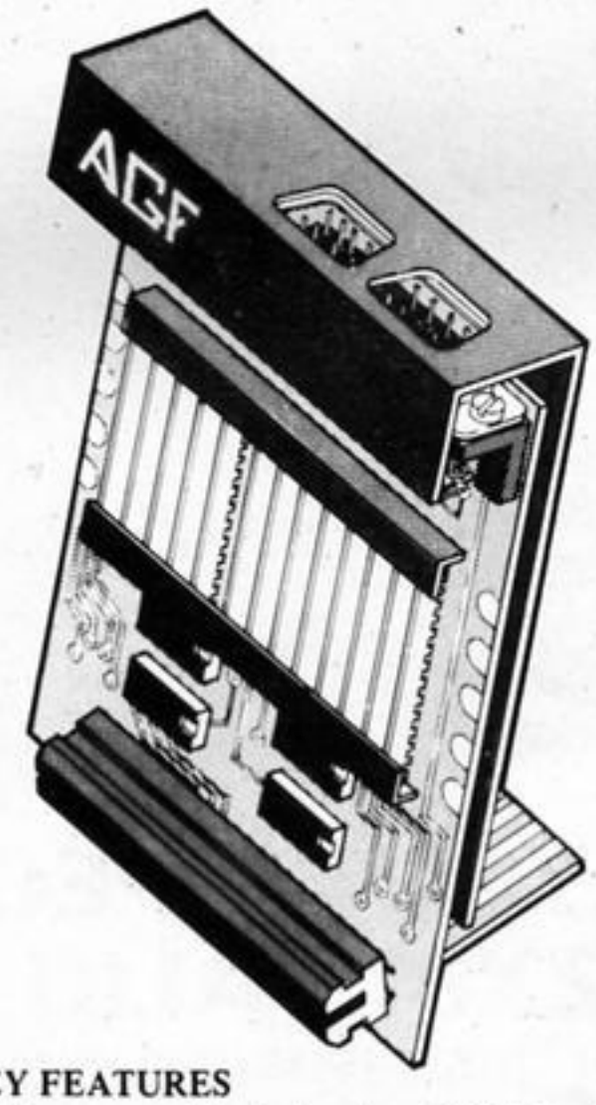
Once configured this can be marked on a Quick Reference Programming Card for storing with the game. As the programming is *not* power dependent the interface retains the last configuration made and can be immediately used when next switched on.



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Play as you learn

Do primary teaching programs really work? Our reviewers find that some do, some don't

Monster Maths 32K BBC £6

Shards, 189 Eton Road, Ilford, Essex

This compilation cassette contains five subprograms, all of which can be selected from a menu without the need to load any further files.

The programs however leave something to be desired. The first is Rectangles, where you have to estimate the area of one rectangle in terms of another. This is not an easy skill, and not as useful as a simpler area calculation program might be.

Monster Maths, the title program, is quite good, with you or your friends being eaten by the monster depending on your performance in answering three problems in a set time span.

Both the Times Tables and Arithmetic programs are simple drills of no particular note or merit.

The final, Mystery Numbers, program is very like a certain TV quiz show, where you are given a target number and have to form that number from the other numbers given by combining them in any mathematical sequence.

The difficulty is that in this program, even Level 1 can give problems like finding 468 from 21, 18 and 12. This may be fine for adults but not for the target age group. **D.C.**

instructions	50%
ease of use	80%
graphics	70%
value for money	70%

★ ★ ★ ★

Early Punctuation 48K Spectrum £9.95

Sinclair, 28 Stanhope Rd, Camberley, Surrey

Not knowing the age group that this rather expensive program was aimed at made it difficult to decide its usefulness.

It states that a full stop is used at the end of a sentence only, so I assume a lower primary level.

For young children it would be great fun to get all the sentences right to get to the shooting game that follows.

Graphics, colour and sound are good, with a little man running to correct the sentences at the player's command.

Each sentence correctly punctuated lays down a row of bricks until the last two put up five bottles each.

Then the player shoots the bottles down with an on-screen tally being kept. The overall score can be printed out.

The beauty of such a program is that the sentences used can be changed. Any attempt by the player to complete the tasks by trial and error will show up in the final score.

I wonder if parents or teachers will really want to spend time putting in different sentences, when writing them on to paper or a blackboard is so much simpler. **T.W.**

instructions	90%
ease of use	90%
display	85%
value for money	70%

★ ★ ★ ★

Jungle Jumble 48K Spectrum £6.50

Computertutor, PO Box 3, St. Neots

The basic idea is simple and well executed, with the child — and parent — being welcomed by Clever Clogs asking their name.

A real or silly animal is chosen, which will be hidden behind a rectangle of 18 × 19 question marks.

Correct responses to questions make C.C. smile and some question marks disappear revealing the animal.

Wrong answers cause him to grimace and parts of the picture to black out.

Eventually the computer says 'well done' and exposes the animal and the Safari Game starts.

A truck is driven to a tent, missing trees and entering the first letters of animals that momentarily flash up stopping the truck.

"The child that shines is the one whose parents take **time** to support classroom work" states the insert to this program, that will only be as useful as the quantity and quality of parental input.

So it is a shameful omission, on an otherwise useful aid, that it is impossible to alter the questions in the way stated.

"Press p for play" only appears at the start — it has to be reloaded to make alterations! **T.W.**

instructions	80%
ease of use	80%
display	75%
value for money	70%

★ ★ ★ ★

Capital Letters 48K Spectrum £9.95

Sinclair, 28 Stanhope Rd, Camberley, Surrey

I had great trouble loading this program, but it was worth it in the end.

It starts with a teaching part, giving simple sentences as examples. Then a tree grows, to the accompaniment of sound effects. Below it are four bands of instructions that in a teaching program should be larger and much easier to read.

A sentence to be corrected appears on screen with a green apple that can be moved along above it. Key 6 changes the letter below the apple to a capital.

If you get it wrong, you're told "try again", without any return to the teaching section. The score gives number of tries, thus showing up any trial and error attempts, but disappears too quickly unless you use a printer.

In the second game, an apple falling from the tree has to be stopped — impossible on the review copy — by pressing the key corresponding to the letter on the screen.

Animation, sound and graphics were excellent.

Both primary and remedial children would enjoy this way to learn and reinforce knowledge. **T.W.**

instructions	90%
ease of use	90%
display	85%
value for money	70%

★ ★ ★ ★

Amazing Ollie 32K BBC £6.95

Storm Software, Winchester House, Wootton Grove, Sherborne, Dorset

Subtitled 'Learning about Numbers', this is what the graded levels of the program are supposed to encourage.

Unfortunately there is a major flaw in the program's concept. I do not believe that children who could get the most from and indeed who need a program like this, will be able to master the complicated way the game is played.

The basis of the program is a maze which it generates when first run.

You then have to navigate this maze in order to count or collect the fish that Ollie the Octopus needs to feed his children.

If you believe that a young child can cope with such problems while learning about numbers, then this may be of help. Otherwise, it is simply a game program for an older child.

The levels within the program are well chosen. They start with number recognition in Finding Fish, progress to simple addition in Counting Fish and then extend this to a Beat the Clock activity.

There is another advanced option where you don't even see the maze, only the possible directions. **D.C.**

instructions	80%
ease of use	30%
graphics	80%
value for money	50%

★ ★ ★

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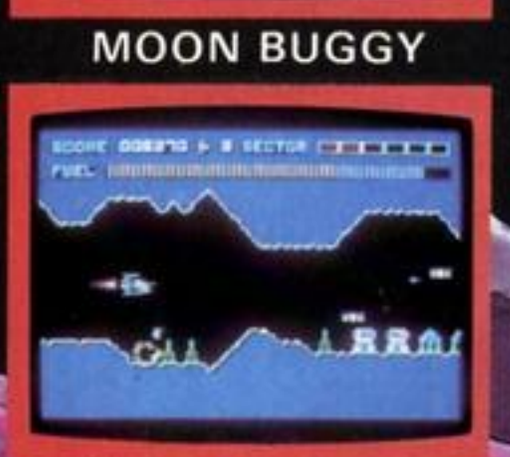

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Sing along with your 64

This enchanting program plays The Twelve Days of Christmas as the characters appear on screen — you'll love the partridge in a pear tree. Iain Murray wrote it for the Commodore 64

Here's a musical Christmas card which plays The Twelve Days of Christmas using the Commodore 64's great musical abilities.

In time with the music, a series of multi-coloured sprites appear on the screen depicting the appropriate verses of the song.

The song itself is a classic example of a nested loop, i.e. a loop-within-a-loop.

How it works

30-50 set screen colours and zero sound effects
60-80 PRINT titles
100-180 read in gift, sprite and sound data
300-1000 set sprite dimensions
1120-1130 position sprites
1200-1240 play music for first line
1300-1330 play music for verses 2-4 if I less than or equal to 4
1500-1520 play music for verses 12-6 if I greater than 4
1600-1670 play music for verses 2-4 if I greater than 4
1800-1950 play music for partridge verse
5000-5020 select random instrument
6000-6010 play next note in tune
7000-7020 set up sprite memory locations and colours
10000-10960 gift, sprite and music data

The computer randomly selects an instrument from an orchestra of five to play each verse and as it plays the sprites will appear.

There is rather a lot of data to type in.

If you make a mistake this will appear as bad musical notes or weird-looking sprites.

A useful hint for typing data is: type the data and RUN the program. Then remove the last data item. This should result in an OUT OF DATA error on re-RUNning the program.

The reverse N and / in lines 60 and 1000 must be entered by leaving a space, entering the line, going to reverse mode (CTRL 9), then editing in an N or shifted N (for /) as required.

Variables

D$(12) day number
GT$(12) gift name
S(12,10) sprite data array
I(5,5) instrument data
N(2,10) tune note data
V,N sprite and sound pointers
I main verse counter
J inner verse counter
C music note pointer
RN instrument number
Other variables are temporary counters

Hints on conversion

The program relies heavily on the 64's excellent sprite and music capabilities and hence would be difficult to convert to other micros as it stands.

However if all POKEs were removed along with the sprite and music data, the "shell" program for printing the verses will be left and this would work with virtually no further conversion on other micros. If desired, the music code for your own computer could then be added. Notes:

—paste-in 'left square bracket' at end of 5th line from bottom—

60 Reverse heart,slash,E,Q, — clear screen, set upper case, white, cursor down, cursor right
1000 Reverse N — set lower case

```
10 REM *** TWELVEDAYS ***
20 REM *** BY IAIN MURRAY      1983 ***
30 V=53248:POKE V+32,6:POKE V+33,6:POKE V+21,0:N=54272
40 FOR I=N+24 TO N STEP -1:POKE I,0:NEXT
50 POKE N+24,15
55 REM[CLR] [UPPER CASE] [4 CRSR DWN] [7 CRSR RIGHT]
60 PRINT "■■■■■■■■■■■■■■YOUR COMMODORE 64 PRESENTS"
65 REM[3 CRSR DWN] [6 CRSR RIGHT]
70 PRINT "■■■■■■■■■THE TWELVE DAYS OF CHRISTMAS-"
75 REM[3 CRSR DWN] [7 CRSR RIGHT]
80 PRINT "■■■■■■■■■■■PLEASE WAIT WHILE I TUNE UP"
100 DIM D$(12),GT$(12),S(12,10),I(5,5),M(2,10),N(2,100)
110 FOR I=1 TO 12:READ D$(I):NEXT
120 FOR I=1 TO 12:READ GT$(I):NEXT
125 FOR I=13 TO 15:FOR J=0 TO 62:READ A:POKE (I*64)+J,A:NEXT J,I
130 FOR I=243 TO 255:FOR J=0 TO 62:READ A:POKE (I*64)+J,A:NEXT J,I
140 FOR I=0 TO 62:POKE 704+I,0:NEXT
150 FOR I=1 TO 12:FOR J=1 TO 9:READ S(I,J):NEXT J,I
160 FOR I=0 TO 4:FOR J=0 TO 4:READ I(I,J):NEXT J,I
170 FOR I=1 TO 10:FOR J=1 TO 2:READ M(J,I):NEXT J,I
180 FOR I=1 TO 48:FOR J=1 TO 2:READ N(J,I):NEXT J,I
300 POKE V+28,63:POKE V+23,63:POKE V+29,63:POKE V+16,32:POKE V+27,63
999 REM[CLR] [WHT] [UPPER CASE]
1000 POKE 54296,15:POKE V+32,6:POKE V+33,6:PRINT "□■■"
1050 REM *** MAIN SONG LOOP ***
1100 FOR I=1 TO 12
1110 GOSUB 5000:REM *** PICK INSTRUMENT
1120 FOR X=1 TO 11 STEP 2:POKE V+X,200:NEXT:POKE V,30:POKE V+2,78:POKE V+4,126
1130 POKE V+6,174:POKE V+8,222:POKE V+10,15:REM *** POSITION SPRITES
1200 REM [CLR] [2 CRSR DWN]
1210 PRINT "     TRUE LOVE SENT TO ME :"
1220 FOR W=1 TO 13:POKE N+4,0:POKE N+1,M(1,N(1,W)):POKE N,M(2,N(1,W))
1230 POKE N+4,I(RN,2)
1240 FOR X=1 TO 100*N(2,W):NEXT X,W:REM MUSIC DELAY
1250 IF I=1 THEN PRINT SPC(6);:GOTO 1900
1260 IF I>4 THEN 1500
1299 REM *** I<=4 ***
1300 FOR J=I TO 2 STEP -1:GOSUB 7000:PRINT SPC(6);GT$(J);",":POKE V+21,63
1310 C=45:FOR X=1 TO 4:GOSUB 6000:NEXT X:POKE V+21,0:NEXT J
1330 GOTO 1800
1499 REM *** I>=5 ***
1500 IF I=5 THEN 1600
1510 FOR J=I TO 6 STEP -1:C=50:GOSUB 7000:PRINT SPC(6);GT$(J);",":POKE V+21,63
1520 C=14:FOR X=1 TO 5:GOSUB 6000:NEXT X:POKE V+21,0:NEXT J
1599 REM *** 5 RINGS ***
1600 J=5:C=19:GOSUB 7000:POKE V+21,4:GOSUB 6000:POKE V+21,14:GOSUB 6000
1610 GOSUB 6000:POKE V+21,63:GOSUB 6000:POKE V+21,0
1619 REM *** 4 BIRDS ***
1620 J=4:C=23:GOSUB 7000:POKE V+21,16:GOSUB 6000:POKE V+21,24:GOSUB 6000
1630 POKE V+21,28:GOSUB 6000:POKE V+21,30:GOSUB 6000:GOSUB 6000:POKE V+21,0
1639 REM *** 3 HENS ***
1640 J=3:C=28:GOSUB 7000:POKE V+21,8:GOSUB 6000:POKE V+21,12:GOSUB 6000
1650 POKE V+21,14:GOSUB 6000:POKE V+21,0
1659 REM *** 2 DOVES ***
1660 J=2:C=31:GOSUB 7000:POKE V+21,8:GOSUB 6000:GOSUB 6000:POKE V+21,12
1670 GOSUB 6000:GOSUB 6000:GOSUB 6000
1800 PRINT SPC(6);"AND ";:C=36:GOSUB 6000
1900 PRINT GT$(1);"."
```

```
1910 C=37:POKE V+39,0:POKE V+40,5:POKE 2040,14:POKE 2041,13:POKE V+37,9
1920 POKE V+38,7:POKE V,150:POKE V+1,0:POKE V+2,150:POKE V+3,200:POKE V+21,3
1930 FOR Z=1 TO 8:FOR B=1 TO 22 STEP 2:POKE V+1,(Z*22)-20+B:NEXT:GOSUB 6000:NEX
T
1950 IF I<12 THEN POKE V+21,0
2000 NEXT I
2005 REM[5 CRSR DWN]
2010 PRINT "■■■■■■":POKE N+24,0
3000 END
4999 REM *** SELECT RANDOM INSTRUMENT ***
5000 RN=INT(RND(TI)*5)
5020 FOR Q=0 TO 4:POKE N+2+Q,I(RN,Q):NEXT:RETURN
5999 REM *** PLAY NEXT NOTE ***
6000 POKE N+4,0:POKE N+1,M(1,N(1,C)):POKE N,M(2,N(1,C)):POKE N+4,I(RN,2)
6010 FOR XX=1 TO 100*N(2,C):NEXT XX:C=C+1:RETURN
6999 REM *** SET UP SPRITE LOCATIONS ***
7000 FOR ZZ=1 TO 6:POKE 2039+ZZ,S(J,ZZ):POKE V+38+ZZ,S(J,7):NEXT
7010 POKE V+37,S(J,8):POKE V+38,S(J,9):IF C<32 THEN PRINT SPC(6);GT$(J);","
7020 RETURN
9999 REM *** DAY AND GIFT DATA ***
10000 DATA FIRST,SECOND,THIRD,FOURTH,FIFTH,SIXTH
10010 DATA SEVENTH,EIGHTH,NINTH,TENTH,ELEVENTH,TWELFTH
10020 DATA A PARTRIDGE IN A PEAR TREE,TWO TURTLE DOVES,"THREE -RENCH HENS"
10030 DATA FOUR CALLING BIRDS,FIVE GOLD RINGS,SIX GEESE A-LAYING
10040 DATA SEVEN SWANS A-SWIMMING,EIGHT MAIDS A-MILKING,NINE DRUMMERS DRUMMING
10050 DATA TEN PIPERS PIPING,ELEVEN LADIES DANCING,TWELVE LORDS A-LEAPING
10099 REM *** TREE ***
10100 DATA 0,170,,2,170,128,10,234,160,42,238,168,46,174,232,174,170,234,170
10110 DATA 186,174,170,187,174,171,171,170,171,170,170,42,174,168,10,174,160,2
10120 DATA 170,128,,170,,,20,,,20,,,20,,,20,,,20,,,20,,,85,0
```

```
10199 REM *** PARTRIDGE ***
10200 DATA 0,,,,,,,,,,,,,,,,,,,1,,,5,64,,,4,64,,,53,85,,,5,85,80,1,106,165,1,149
10210 DATA 150,1,150,85,1,105,84,,85,80,,,5,64,,,63,,,,,,,,,,0
10249 REM *** DOVE ***
10250 DATA 0,,,,,,,,,,,,,,,,,,,8,,,42,,,226,,,42,,,10,,,10,84,,,10,85,64,41,85,80
10260 DATA 41,85,84,42,85,85,10,170,170,,170,130,,3,,,3,,,3,,,15,192,,,0
10299 REM *** HEN ***
10300 DATA 0,,,,,,,,,,,,,,,,,,,4,,,22,,,210,,,42,128,170,10,128,170,10,162,170,10,162
10310 DATA 170,10,170,170,10,170,168,10,170,170,2,170,170,2,170,160,,42,,,12
10320 DATA 0,,,12,,,63,,,,0
10349 REM *** BIRD ***
10350 DATA 0,,,,,,,,,,,,,,,,,,,8,,,42,,,34,,,234,,,42,,,10,128,,,10,128,,,10,160,0
10360 DATA 10,168,,2,168,,,168,,,170,,,234,,,202,,,194,,,,0
10399 REM *** RING ***
10400 DATA 0,,,,,,,,,,,,,,,,,,,60,,,255,,3,255,192,3,195,192,15,,240,15,,240,60,,60,60,,60
10410 DATA 60,,60,60,,60,60,,60,15,,240,15,,240,3,195,192,3,255,192,,255,,,60
10420 DATA 0,,,,,,,,,,,,,,,,,,,0
10449 REM *** GOOSE ***
10450 DATA 0,,,,,,,,,,,,,,,,,,,8,,,42,,,226,,,42,,,10,,,10,,,10,,,10,128,,,10,160,,10
10460 DATA 168,,10,170,,,10,170,,,10,170,,,2,168,,,160,,,192,32,,192,160,3,192,160
10499 REM *** SWANS ***
10500 DATA 0,,,,,,,,,,,,,,,,,,,8,,,128,42,2,160,98,6,32,42,2,160,10,,160,10,,160,10,128
10510 DATA 168,10,160,170,10,160,170,10,160,170,10,160,170,255,255,255,255,255
10520 DATA 255,,,,,,,,,,,,,,,,,,,0
10530 DATA 0,,,,,,,,,,,,,,,,,,,8,,,42,,,98,,,42,,,10,,,10,,,10,128,,,10,160,,,10,160,,,10
10540 DATA 160,,10,160,,,255,255,,,255,255,,,,,,,,,,,,,,,0
10549 REM *** MAIDS ***
10550 DATA 0,,,,,,,,,,,,,,,,,,,4,,,64,21,1,80,63,3,240,63,3,240,63,3,240,12,,,192,38,2,96
10560 DATA 166,138,104,170,138,168,234,206,172,234,206,172,233,78,148,233,78
10570 DATA 148,41,66,148,41,66,148,42,2,160,21,1,80,12,,,192,20,1,64
10599 REM *** DRUMMERS ***
```

CHRISTMAS PROGRAM

```
10600 DATA 0,,,5,,80,5,,80,5,,80,5,,80,15,,240,15,,240,15,,240,10,,160,42,130
10610 DATA 168,42,130,168,42,130,168,42,130,168,21,129,88,63,131,248,63,131,248
10620 DATA 63,131,248,21,193,92,5,,80,5,,80,21,65,84
10630 DATA 0,,,5,,,5,,,5,,,5,,,15,,,15,,,15,,,10,,,42,128,,42,128,,42,128,,42
10640 DATA 128,,21,128,,63,128,,63,128,,63,128,,21,192,,5,,,5,,,21,64,0
10649 REM *** PIPERS ***
10650 DATA 0,,,,,,4,,64,21,1,80,63,3,240,63,3,240,55,3,112,4,,64,38,2,96
10660 DATA 166,138,104,166,138,104,183,139,120,42,2,160,42,2,160,21,1,80,21,1
10670 DATA 80,17,1,16,17,1,16,17,1,16,17,1,16,17,1,16
10699 REM *** LADIES ***
10700 DATA 0,,,,,,,,,5,,80,13,,208,15,,240,15,,240,10,,160,58,3,160,251,15,176
10710 DATA 203,12,176,11,,176,11,,176,42,130,168,42,130,168,42,130,168,51,3,48
10720 DATA 83,5,48,3,,48,5,,80,,,0
10730 DATA 0,,,,,,,,,,5,,,13,,,15,,,15,,,10,,,58,,,251,,,203,,,11,,,11,,,42
10740 DATA 128,,42,128,,42,128,,51,,,83,,,3,,,5,,,,,0
10749 REM *** LORDS ***
10750 DATA 0,,,,,,5,192,92,15,128,248,15,128,248,15,128,248,10,128,168,42,130
10760 DATA 168,42,130,168,42,2,160,42,2,160,42,2,160,58,3,160,10,,160,42,2,160
10770 DATA 42,2,160,34,2,32,34,2,32,82,5,32,2,,32,5,,80
10799 REM *** OTHER SPRITE DATA ***
10800 DATA 13,14,11,11,11,11,0,9,7,11,11,15,15,11,11,1,9,7
10810 DATA 11,243,243,243,11,11,0,2,7,11,244,244,244,244,11,,,7
10820 DATA 245,245,245,245,245,11,,,7,246,246,246,246,246,246,1,,7
10830 DATA 11,247,247,247,248,11,1,2,14,11,249,249,249,249,11,1,14,10
10840 DATA 11,250,250,250,250,251,2,,10,11,252,252,252,252,252,5,12,10
10850 DATA 253,253,253,253,253,254,2,9,10,255,255,255,255,255,255,14,12,10
10899 REM *** MUSIC ***
10900 DATA 0,,33,12,12,255,2,65,9,,,,17,24,15,,,17,135,15,3,250,65,150,50
10910 DATA 34,75,38,126,43,52,45,198,51,97,57,172,64,188,68,149,76,252,61,126
10920 DATA 1,1,1,1,1,2,4,1,4,1,4,2,4,1,4,1,5,1,6,1,10,1,5,1,6,3
10930 DATA 8,1,5,5,,75,6,,75,10,,75,5,1
10940 DATA 8,4,9,2,7,2,8,2,8,,75,10,,75,6,,75,5,,75,4,1,6,2,2,2,4,2
10950 DATA 5,1,4,,75,3,,75,2,1,1,2,6,,5,10,,5,8,,75,9,,5,10,,25,6,,25,4,,25
10960 DATA 5,1,4,6,8,2,5,1,6,1,10,2
```

Micro Tip **Commodore 64**

OLD and RESTORE

Here are two short machine code routines for Commodore 64 owners. The first routine is called OLD, and will restore a program which has been deleted in error using NEW. This routine will only work if no more BASIC text has been entered since NEW was executed.

The second routine enhances the Commodore 64's RESTORE facility by adding the ability to restore to a particular data line.

I have found this routine extremely useful in programs where I have grouped data items together into tables.

Previously, the only method of re-reading a particular group of data items was to execute RESTORE, then set up a FOR-NEXT loop to read over unwanted items.

This new routine could also be used to randomly read data in a question-answer type program.

Here are the routines. The first short program is the machine code loader. The second is the BASIC subroutine to be included if you wish to access the restore routine.

Machine code loader

```
10 M=49152 : S=M+2
20 READ A : IF A=-1 THEN END
30 POKE S,A : S=S+1 : GO TO 20
100 DATA 173,0,192,133,20,173,1,192,133,21,32,19,166
120 DATA 165,95,233,1,164,96,176,1,136,141,0,192,140,1,
    192,96
140 DATA  169,255,160,1,145,43,32,51,165,165,34,24,216,
    105
160 DATA 2,133,45,165,36,105,0,133,46,76,94,166,-1
```

To OLD a program, simply type SYS 49183 in direct mode.

Basic subroutine

```
1000 X=INT(LINE|256) : Y=LINE-256* X
1010 POKE 49152,Y : POKE 49153, X
1020 SYS 49154
1030 POKE 65,PEEK(49152) : POKE 66,PEEK(49153)
1040 RETURN
```

To RESTORE to a particular data statement, simply type LINE=.....:GOSUB 1000, eg:

```
10
20
:
50 LINE=400 : GOSUB 1000
:
100 LINE=200 : GOSUB 1000
:
```

I leave other readers to find suitable uses for this routine.

Jim Gardner

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Author – Tony Churcher.
Spectrum 48K – **£4.95.**

Moria A challenging adventure game set in the mines of Moria. You'll have to try and survive encounters with the monsters of middle-earth while trying to locate Durins Ring. The Wizard and the Trader may help or hinder you on your journey to find and open the hidden doors to freedom – a game that will really test your character and staying power.
Author – Mike Howard.
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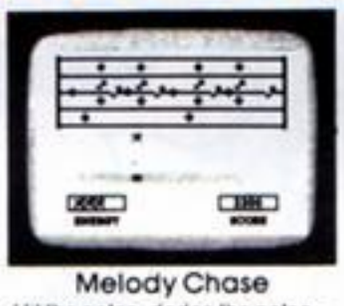

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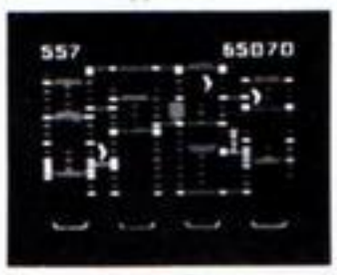

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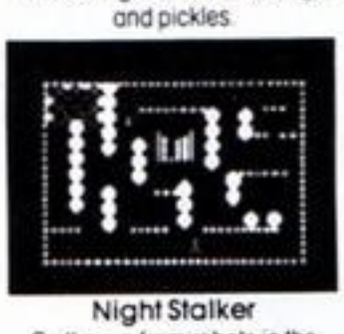

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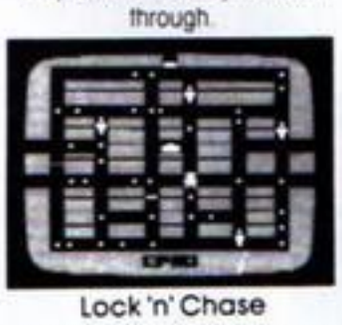

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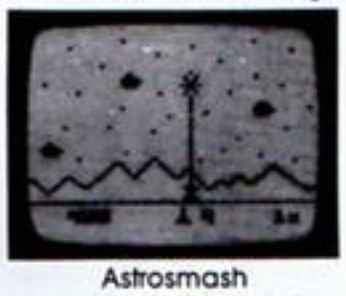

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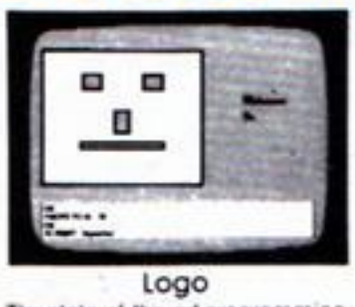

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You
so p
the
Chr
p

The mince pies are so horrible you need a drink to wash them down. And that's only one of the problems on the night your future is on the line. Type Tony Garner's game into your unexpanded TI-99/4A and see if your stomach can stand it

This distinctly festive game puts you in a difficult position.

You have been invited to a Christmas party at your boss's home. The mince pies have been made by his wife, and although they're the worst mince pies you've ever come across, your chances of promotion depend on eating as many as you can.

Unfortunately, the pies are so stodgy that you have to drink a glass of sherry before you tackle another one. The sherry has a predictable effect, and your hand becomes increasingly difficult to control.

You can regain control (usually — but not quite always) by drinking a cup of coffee. But asking for coffee is an admission that you've drunk too much — and that costs you an increasing number of points.

If you've eaten at least half the pies on the table, you can pull the cracker. This creates so much excitement that you earn a bonus (which depends on the screen you're on) and the hostess provides you with a new table of more pies which are each worth more than the last lot.

At the same time your "cheerfulness" increases, and it may not be so easy to guide your hand the way you want it to go.

There's another problem too.

Greedy grabbing all over the table is definitely not allowed, so your hand can't go back over its past tracks. If it tries to, or if it bumps into the border, you lose points.

It's possible to get trapped in your own tracks. If this happens, or if you cut yourself off from the cracker, you have three chances of asking your hostess to set a new table. The number of opportunities left to do this is shown at the bottom left of the screen, headed "Extras". When you press "H" the hostess pulls the cracker for you and gives you a new table of more challenging pies.

Trying to drink two sherries or to eat two pies in succession is possible but not very good for you. In either case you lose a life, and when you lose five lives the game is over. If this happens, you lose 500 points for not knowing when you've had enough.

Sooner or later your coffees will run out.

Then it's only a matter of time before you become so sodden

How it works

1 array DIMensioned to hold values of objects plotted on screen
2-3 call initialisation and start
4-15 normal moves
16-31 abnormal moves
32-36 PRINT score or text on top line
37-38 detect key-press and beep
39-40 SAVE present positions of hand
41-53 find desired direction of travel
54-57 provide new screen if one is available and requested
58 call "I've had too much to drink" routine
59-73 provide coffee, empty cup, reduce effects of sherry and deduct penalty points
74-86 adjust player's movements according to influence of sherry
87-96 if player bumps into border or own track, beep and reduce score
97-100 player can't grab cracker until he's eaten at least half the pies
101-106 move hand into a clear space and plot trail
107-125 add 1 to items consumed, remember previous and present item, move hand, decide what kind of trail to leave on next move. Increase sherry-count or score. PRINT new score
126 give obstacle-value to present position
127 call life-lost routine if item consumed is same as last item
129-136 life-lost routine: noise, flashing, removal of token
137-150 no-lives-left routine: noises, penalty, severe message
151-165 initialise variables
166-171 call initialisation subroutines: point of entry depends on whether this is the first game or a new game
172-175 print cracker and give it a value
176 prevent pies or glasses landing on player's starting square
177-193 plot pies and glasses, with values. Print hand and initialise its coordinates
194-197 first screen displayed
198 instruction to generate "real" random numbers
199-210 define graphics characters
211-215 set up colours
216-233 PRINT frame for game screen
234-238 PRINT coffee-cups to show coffees left, and record highest print-position
239-243 PRINT hands to show lives left, and record lowest print position
244-251 give protective values to border
252-255 PRINT number of extra screens available
257-298 pull cracker, award bonus points, clear and renew array, alter relevant variables and set up new screen if hand has pulled cracker
299-308 solemn routine if player admits he's had enough to drink. Bonus points and noises
309-311 wait for key-press to play new game
312-322 set up new game, adjust high-score and make witty computer joke

must be olite at boss's istmas arty

Variables

MEM(R,C) the array
F graphics character (hand)
C column coordinate
R row coordinate
PL initial print position (Text and score)
MS score or text for printing
K ASCII code for key pressed
S status of key press (Same as before, different or none)
J general purpose variable for loops
P beep-pitch
V store for R
W store for C
FL counter for extra screens requested
EX original total for extra screens
COF total coffees
CMAX column to print new coffee-cup
SH total sherries
SC score
BS bonus points
Z total items consumed
TK graphics character to plot trail
N number of items to be plotted
D value of last item consumed
E value of present item consumed
LIVES lives in hand
LMAX column to print life-token
S1,S2,S3,S4 steps by which player's resistance is graduated
REP flag to show a replay has been required
X,Y variables to read numeric DATA
N$ variable for string DATA
AL increasing effect of sherries
D (at end of game) a delay counter
HSC high score

with sherry that you lose all control of your hand and start losing points all over the place. There is a way out of this problem, so don't despair.

Press P (for "I've had too much to drink") and, after a short pause which allows you to reflect on the error of your ways, you're given 500 bonus points for honesty, and a chance to play a new game.

Control keys:

Cursor keys (E,S,D,X) to move the hand. Left to itself it moves up the screen
C to ask for coffee (which is deliberately awkwardly placed)
H to go to a new screen by escaping from the present one
P to admit you can't go on

A few hints on tactics: Each new game gives you a character with different powers of resisting the sherry. When the sherry begins to take effect the hand will slow down, and then start moving with a will of its own. Its early moves are down and left.

Unless you're losing too many points try to get to a new screen before drinking coffee, because this will affect your condition on the next screen. Two or more coffees will have a longer lasting effect than one, but the more screens you survive the more valuable the pies are, so don't waste them on the early screens.

Try not to end up with a mass of coffees or "Extras" or lives left over. Sooner or later it's usually sensible to press P and take the credit.

At present my wife's high score is 18,600: mine is rather lower.

In early stages of the game it's worth going for the cracker when about half the screen is cleared, and then use your "Extras" with discretion. You can rest your hand underneath the cracker without penalty at any time before you've cleared the necessary number of pies.

You can start with a pie or a sherry — but you must remember the last thing you had when you go to a new screen, or else you'll lose a life.

Note: Since the generation of random numbers is not a process which produces real random numbers, it will be possible for players to compare performances directly by always BREAKing and RUNning after the first game. This will produce the same character to control, although his field of operation will be different. But this is a slow business.

Graphics: 152 & 153 holly, 144 berries, 136 & 137 pie and pie-crumbs, 128 & 129 full and empty glass, 120 & 121 full and empty cup, 112-115 hand, 105-108 parts of cracker.

Hints on conversion

The array uses a lot of memory, so much less than 14K of user-available memory will not make conversion possible unless the program is rebuilt with multi-statement lines (which the Texas does not support).

CALL CHAR(number, hex-string) defines the ASCII-coded character with the values in the string
CALL HCHAR(number, number, number,(number)) plots by row and column as ASCII-coded character (a number of times) horizontally
CALL VCHAR is a vertical version of CALL HCHAR
CALL SOUND should be replaced with any appropriate noises
CALL KEY obtains the ASCII value of any key pressed in variable K
CALL CLEAR clears the screen
CALL COLOR sets up colours by character-set, foreground and background

This program sets up a black background, red glasses, yellow pies, a magenta hand, green holly and a cyan cracker.

TI-99/4A CHRISTMAS PROGRAM

```
1 DIM MEM(24,32)
2 GOSUB 151
3 GOTO 37
4 F=115
5 C=C-1
6 RETURN
7 F=114
8 C=C+1
9 RETURN
10 F=113
11 R=R+1
12 RETURN
13 F=112
14 R=R-1
15 RETURN
16 F=113
17 R=R+1
18 C=C-1
19 RETURN
20 F=113
21 R=R+1
22 C=C+1
23 RETURN
24 F=112
25 R=R-1
26 C=C-1
27 RETURN
28 F=112
29 R=R-1
30 C=C+1
31 RETURN
32 CALL HCHAR(1,PL,32,LEN(M$)+2)
33 FOR J=1 TO LEN(M$)
34 CALL HCHAR(1,PL+J,ASC(SEG$(M$
,J,1)))
35 NEXT J
36 RETURN
37 CALL KEY(3,K,S)
38 CALL SOUND(-75,P,0)
39 V=R
40 W=C
41 IF S=0 THEN 52
42 IF K<>83 THEN 45
43 K=1
44 GOTO 74
45 IF K<>68 THEN 48
46 K=2
47 GOTO 74
48 IF K<>88 THEN 51
49 K=3
50 GOTO 74
51 IF K<>69 THEN 54
52 K=4
53 GOTO 74
54 IF (K=72)*(FL<3)THEN 55 ELSE
58
55 FL=FL+1
56 CALL HCHAR(24,12,ASC(STR$(EX-
FL)))
57 GOTO 268
58 IF K=80 THEN 299
59 IF (K=67)*(COF>0)THEN 60 ELSE
 52
60 CALL HCHAR(1,CMAX-2,121)
61 COF=COF-1
62 FOR J=220 TO 110 STEP -10
63 CALL SOUND(50,J,0)
64 NEXT J
65 CMAX=CMAX-2
66 IF INT(RND*15)+1=3 THEN 68
67 SH=SH-S2
68 SC=SC-BS
69 IF SC>1 THEN 71
70 SC=0
71 M$=STR$(SC)
72 GOSUB 32
73 GOTO 37
74 IF SH>S1 THEN 77
75 ON K GOSUB 4,7,10,13
76 GOTO 87
77 IF SH>S2 THEN 80
78 ON K+INT(RND*1)GOSUB 4,7,10,1
3,16
79 GOTO 87
80 IF SH>S3 THEN 83
81 ON K+INT(RND*2)GOSUB 4,7,10,1
3,16,20
82 GOTO 87
83 IF SH>S4 THEN 86
84 ON K+INT(RND*3)GOSUB 4,7,10,1
3,16,20,24
85 GOTO 87
86 ON K+INT(RND*4)GOSUB 4,7,10,1
3,16,20,24,28
87 IF MEM(R,C)<>1 THEN 97
88 R=V
89 C=W
90 CALL SOUND(-100,2200,0)
91 SC=SC-50
92 IF SC>1 THEN 94
93 SC=0
94 M$=STR$(SC)
95 GOSUB 32
96 GOTO 37
97 IF (MEM(R,C)=2)*(Z<N)THEN 98
ELSE 101
98 R=V
99 C=W
100 GOTO 37
101 IF MEM(R,C)<>0 THEN 107
102 CALL HCHAR(V,W,TK)
103 CALL HCHAR(R,C,F)
```

TI-99/4A CHRISTMAS PROGRAM

```
104 TK=145
105 MEM(R,C)=1
106 GOTO 37
107 Z=Z+1
108 IF (MEM(R,C)=2)*(Z)=N)THEN 2
57
109 D=E
110 E=MEM(R,C)
111 CALL HCHAR(V,W,TK)
112 CALL SOUND(-250,-(3+MEM(R,C)
),0)
113 CALL HCHAR(R,C,F)
114 IF E<>3 THEN 117
115 TK=137
116 GOTO 122
117 IF E<>4 THEN 121
118 TK=129
119 SH=SH+1
120 GOTO 122
121 TK=145
122 IF MEM(R,C)<>3 THEN 126
123 SC=SC+BS
124 M$=STR$(SC)
125 GOSUB 32
126 MEM(R,C)=1
127 IF E=D THEN 129
128 GOTO 37
129 LIVES=LIVES-1
130 FOR J=1 TO 10
131 CALL SOUND(200,110,0,220,0,3
00,0)
132 CALL SCREEN(12-J)
133 NEXT J
134 CALL HCHAR(1,LMAX,32)
135 LMAX=LMAX+2
136 IF LIVES<>0 THEN 37
137 FOR J=1760 TO 110 STEP -10
138 CALL SOUND(-100,J,0)
139 NEXT J
140 CALL CLEAR
141 CALL SCREEN(7)
142 SC=SC-500
143 PRINT "SO THAT'S IT . . ."::
". . . CHOKED ON A MINCE PIE"::
144 PRINT "GREED HAS BEATEN YOU"
:"AND YOU'VE LOST 500 POINTS":"F
OR THE DISGRACE":::
145 PRINT "YOUR FINAL SCORE IS":
SC;"POINTS"::". . .AND I HOPE YO
U'RE":"ASHAMED OF YOURSELF"::
146 PRINT "SOBER UP AND TRY TO D
O":"BETTER NEXT TIME":::
147 FOR J=880 TO 110 STEP -10
148 CALL SOUND(75,J,0)
149 NEXT J
150 GOTO 309
151 BS=50
152 COF=7
153 FL=0
154 EX=3
155 LIVES=5
156 S1=INT(RND*4)+4
157 S2=INT(RND*5)+S1
158 S3=INT(RND*6)+S2
159 S4=INT(RND*7)+S3
160 P=1250
161 PL=17
162 SC=0
163 SH=0
164 TK=145
165 N=10
166 IF REP<>1 THEN 169
167 GOSUB 216
168 GOTO 170
169 GOSUB 194
170 GOSUB 172
171 RETURN
172 FOR J=1 TO 3
173 CALL HCHAR(13,15+J,103+J)
174 MEM(13,15+J)=2
175 NEXT J
176 MEM(21,5)=1
177 FOR J=1 TO N
178 GOSUB 190
179 CALL HCHAR(R,C,136)
180 MEM(R,C)=3
181 GOSUB 190
182 CALL HCHAR(R,C,128)
183 MEM(R,C)=4
184 NEXT J
185 MEM(21,5)=0
186 CALL HCHAR(21,5,112)
187 R=21
188 C=5
189 RETURN
190 R=INT(RND*22)+2
191 C=INT(RND*30)+3
192 IF MEM(R,C)<>0 THEN 190
193 RETURN
194 CALL CLEAR
195 CALL COLOR(2,16,1)
196 PRINT TAB(3);"THE BOSS'S XMA
S PARTY":TAB(3);"**************
******":::TAB(5);"SETTING UP NO
W":TAB(5);"**************"::::::
:
197 CALL SCREEN(8)
198 RANDOMIZE
199 DATA 152,01030F0F3E3E78F8,15
3,80C0F0F07C7C1F,144,000C0F333CC
CF020,145,0000180018,136,00007EF
FFF7E7E3C
200 DATA 137,000020A4000D200A,12
8,003E3E3E0808083E,129,0022223E0
808083E,120,003C3F3D3F3CBDFF
201 DATA 121,002427252724BDFF,11
2,082AAAAAFC3C3838,113,1C1C7C7F5
5555410,114,1C10FEF0FF303C
```

TI-99/4A CHRISTMAS PROGRAM

```
202 DATA 115,38087F0FF0C3C,104,
00040307030703O4,105,007E7EFFFFF
F7E7E,106,0020C0E0C0E0C02
203 DATA 107,046242E7C3E34666,10
8,00464AC3C3C34272
204 DATA 16,13,15,7,14,12,13,9,1
2,16,11,14,10,8,8,16,7,16,6,16,5
,16,4,16,3,16,1,16
205 RESTORE 199
206 FOR J=1 TO 19
207 READ X,N$
208 CALL CHAR(X,N$)
209 CALL HCHAR(J,1,32,32)
210 NEXT J
211 RESTORE 204
212 FOR J=1 TO 14
213 READ X,Y
214 CALL COLOR(X,Y,1)
215 NEXT J
216 CALL CLEAR
217 CALL SCREEN(2)
218 FOR J=3 TO 30 STEP 3
219 CALL HCHAR(2,J,152)
220 CALL HCHAR(24,J,144)
221 CALL HCHAR(2,J+1,144)
222 CALL HCHAR(24,J+1,153)
223 CALL HCHAR(2,J+2,153)
224 CALL HCHAR(24,J+2,152)
225 NEXT J
226 FOR J=3 TO 21 STEP 3
227 CALL VCHAR(J,3,144)
228 CALL VCHAR(J,32,144)
229 CALL VCHAR(J+1,3,153)
230 CALL VCHAR(J+1,32,152)
231 CALL VCHAR(J+2,3,152)
232 CALL VCHAR(J+2,32,153)
233 NEXT J
234 FOR J=1 TO 2*COF STEP 2
235 CALL HCHAR(1,3+J,120)
236 CALL HCHAR(1,4+J,32)
237 NEXT J
238 CMAX=3+J
239 FOR J=1 TO 2*LIVES STEP 2
240 CALL HCHAR(1,22+J,112)
241 CALL HCHAR(1,23+J,32)
242 NEXT J
243 LMAX=23
244 FOR J=3 TO 32
245 MEM(2,J)=1
246 MEM(24,J)=1
247 NEXT J
248 FOR J=2 TO 23
249 MEM(J,3)=1
250 MEM(J,32)=1
251 NEXT J
252 M$="EXTRAS="&STR$(EX-FL)
253 FOR J=1 TO LEN(M$)
254 CALL HCHAR(24,4+J,ASC(SEG$(M
$,J,1)))
255 NEXT J
256 RETURN
257 CALL HCHAR(V,W,TK)
258 CALL HCHAR(R,C,F)
259 SC=SC+(BS*2)
260 M$="BONUS POINTS! "
261 CALL SOUND(-1000,1760,0)
262 GOSUB 32
263 M$="                "
264 GOSUB 32
265 CALL SOUND(-1000,1860,0)
266 M$="  "&STR$(BS*2)
267 GOSUB 32
268 CALL HCHAR(13,17,107)
269 CALL SCREEN(15)
270 CALL SCREEN(11)
271 CALL SOUND(200,-2,0)
272 CALL SOUND(250,-6,0)
273 CALL SOUND(100,-5,0)
274 CALL SCREEN(7)
275 CALL HCHAR(13,17,108)
276 N=N+10
277 M$="MORE PIES SOON!"
278 GOSUB 32
279 CALL SCREEN(2)
280 FOR R=3 TO 23
281 FOR C=4 TO 31
282 MEM(R,C)=0
283 NEXT C
284 NEXT R
285 IF REP<>1 THEN 287
286 RETURN
287 AL=AL+2
288 SH=(7-COF)+AL
289 Z=0
290 BS=BS+200
291 P=P+100
292 GOSUB 216
293 IF COF>5 THEN 295
294 PL=15
295 M$=STR$(SC)
296 GOSUB 32
297 GOSUB 172
298 GOTO 37
299 FOR D=1 TO 1000
300 NEXT D
301 CALL CLEAR
```

CHRISTMAS PROGRAM

```
302 CALL SCREEN(7)
303 SC=SC+500
304 PRINT "SO YOU ADMIT IT...":"
YOU'VE HAD ENOUGH TO DRINK"::"FO
R BEING SO HONEST YOU GET":"500
EXTRA POINTS"::
305 PRINT "SO YOUR FINAL SCORE I
S":SC;"POINTS":::"WHY NOT SOBER
UP...":"...AND TRY AGAIN?":::
306 FOR J=1760 TO 110 STEP -110
307 CALL SOUND(150,J,0)
308 NEXT J
309 PRINT :::"ANY KEY TO PLAY AG
AIN"::
310 CALL KEY(0,K,S)
311 IF S=0 THEN 310
312 CALL SOUND(150,1280,0)
313 CALL CLEAR
314 IF SC<HSC THEN 316
315 HSC=SC
316 PRINT TAB(2);"I'M CLEARING T
HE TABLE":::::::"(TOP SCORE SO F
AR=";HSC;")"::
317 REP=1
318 E=0
319 GOSUB 280
320 GOSUB 151
321 REP=0
322 GOTO 37
```


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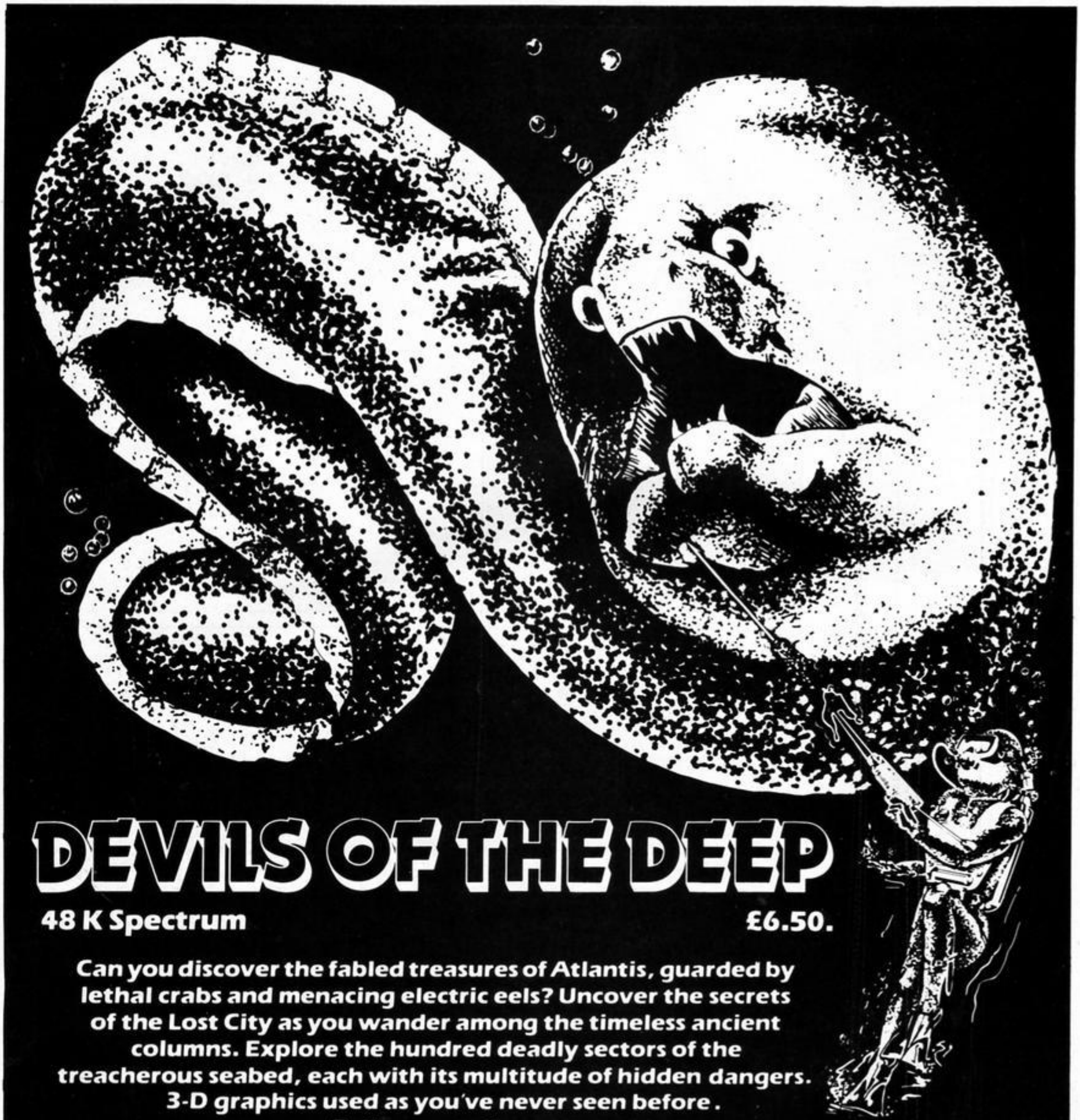

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Empire Dragon £6.95

Shards Software, 189 Eton Road, Ilford, Essex

Empire is a world wide conflict game, simple to operate and set up, in which the Dragon plays one power and you play the opposition power.

The aim is the usual megalomaniacal one of world domination, achieved by wiping the opposition off the face of the globe.

The game is fairly easy to set up with the powers taking turns to choose territory. Then you have to assign your armies, continent by continent, until all are deployed.

The maps are all high resolution and fairly accurate. The method of input is easy, though I can't say the instructions were very clear.

The fight begins. Victory means the chance to move armies and attack new targets; failure passes the attack to the other power.

This is a simple wargame simulation which should prove a gentle introduction, without too many variables to manipulate.

Good fun, and quite interesting, but do allow over 30 minutes for each game! **D.C.**

instructions	60%
playability	80%
graphics	90%
value for money	70%

★ ★ ★ ★

Galaxy Conflict 32K BBC £14.75

Martech, 9 Dillingburgh Road, Eastbourne, East Sussex

This game is hard to describe. The nearest I can get is to call it a Star-trek type game for two players, who are fighting for control of a solar system.

You have the twin problems of attack and defence of your territory (various planets and mineral moons), and must also build, maintain and command the powerful Eoncruisers which are your main weapon against your foe.

You cannot leave a cruiser and hope that it will remain static, as the crew are using energy and supplies all the time.

This is not a game for the younger player — there are so many variables to be thought about and planned for that good strategic planning is essential.

The game is well laid out and the screen, using Mode 7, is very clean and tidy. The game is likely to take a long time, therefore the 'Save Game' facility is available to allow other essential matters to intervene.

Unfortunately there is no solo play option, nor is there a move limited game, both of which would have made the program that much easier to use. **D.C.**

instructions	70%
playability	80%
graphics	60%
value for money	80%

★ ★ ★ ★

Ring of Power CBM 64 £9.95

Quicksilva, 13 Palmerston Rd, Southampton SO1 1LL

Ring Of Power is described on the inlay card as a text **or** full colour graphics adventure game. There are no instructions supplied — not even a vocabulary.

To enter the graphics mode you enter the command 'graphic' and 'text' to return to text mode. Although they may seem obvious, it took me quite a long time before I found these out by accident.

The graphics are fairly dull and straightforward. The scene is the same for all similar places, and not very impressive at that. As a text game I found it quite enjoyable.

I would not advise any adventuring experts to buy it — they would find it too easy. For a newcomer to adventures, or someone who finds most adventures difficult, though, this game would be ideal.

You play Ring Of Power on a set of different levels. When one level has been explored you move up to the next. Unfortunately you can't move baek down a level to recover an object you need — this was the only thing (apart from the lack of instructions) that I found annoying.

The game consists mainly of exploring and solving the odd problem. There are no creatures out to kill you or traps to fall into.

K.I.

instructions	0%
playability	50%
graphics	10%
value for money	55%

★ ★ ★

Vampire Village 48K Spectrum £6.95

Terminal Software, 28 Church Lane, Prestwich, Manchester

If you though being Mayor of Vladsdorf was going to be all beer and skittles then you are in for a rude shock, because fangs ain't what they used to be.

The environmental nuisance in the area happens to be a vampire who has moved into the ruined castle and now threatens your villagers' lives (besides which, I bet he hasn't paid his rates).

Your job is to allocate public funds to the foolhardy volunteers who step forward to try to trap the undead pest, and to direct their efforts from your post high in the hills overlooking Vladsdorf.

The screen shows a bird's eye view of the village, and you move your volunteers around in search of food, equipment, lodgings and anti-vampire devices before setting across the river into vampire territory.

Don't forget to buy a canoe, or you'll drown!

The game is interesting to start with but I found the pace rather too slow and the graphics are only ordinary.

The game is smartly packed in a superior style library case and operating instructions are straightforward. **D.J.**

instructions	90%
playability	75%
graphics	75%
value for money	70%

★ ★ ★ ★

Jokers Wild Spectrum £9.99

Phoenix Software, Spangles House, 116 Marsh Road, Pinner

This is an absolute gem! An action/adventure game, with super graphics.

The twist in the concept lies in the action section, which is a plot-related maze game.

Master each one and gain vital clues to the adventure, and when you've mastered them all you gain the code which allows entry to the adventure. The action game is hard enough to keep you quiet for some time!

The adventure comes on a separate cassette with a non-graphics version for 16K owners on the other side. The plot is set in a funfair with a very evil air about it.

Each location is pictured, the Big Top, the Ghost Train, the Hall of Mirrors and the Big Wheel, to name but a few.

I'm not going to give the plot away, but if it weren't for the Bearded Lady who's a master-spy, the creeping Ghouls of the Ghost Train would have got me!

I suppose the standard by which graphics adventures are measured must be The Hobbit. True, you can't speak to the characters in Jokers Wild, but it has that tantalising mixture of predictability and randomness so beloved of true adventure freaks. **D.M.**

instructions	90%
playability	95%
graphics	95%
value for money	100%

★ ★ ★ ★ ★

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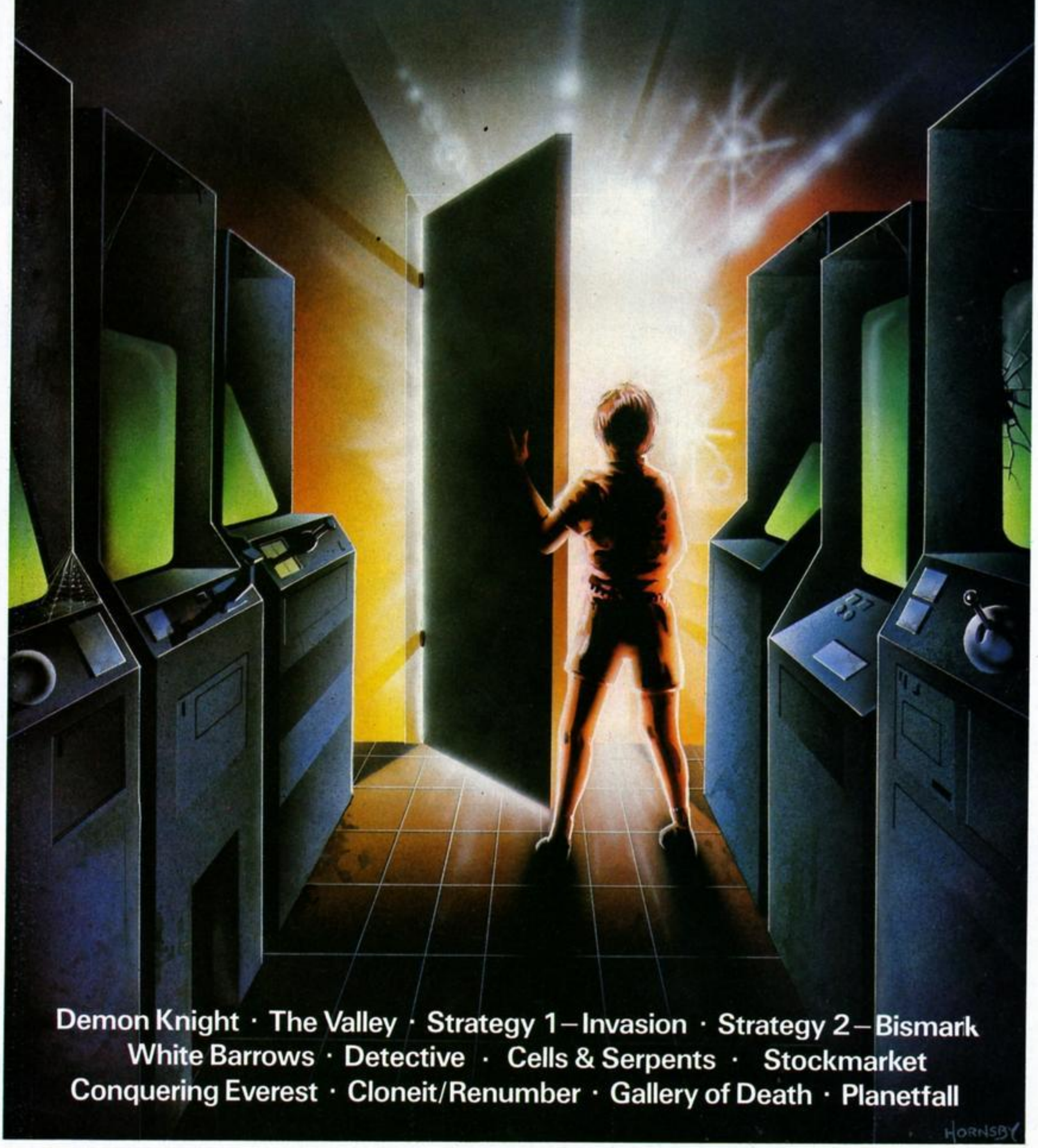

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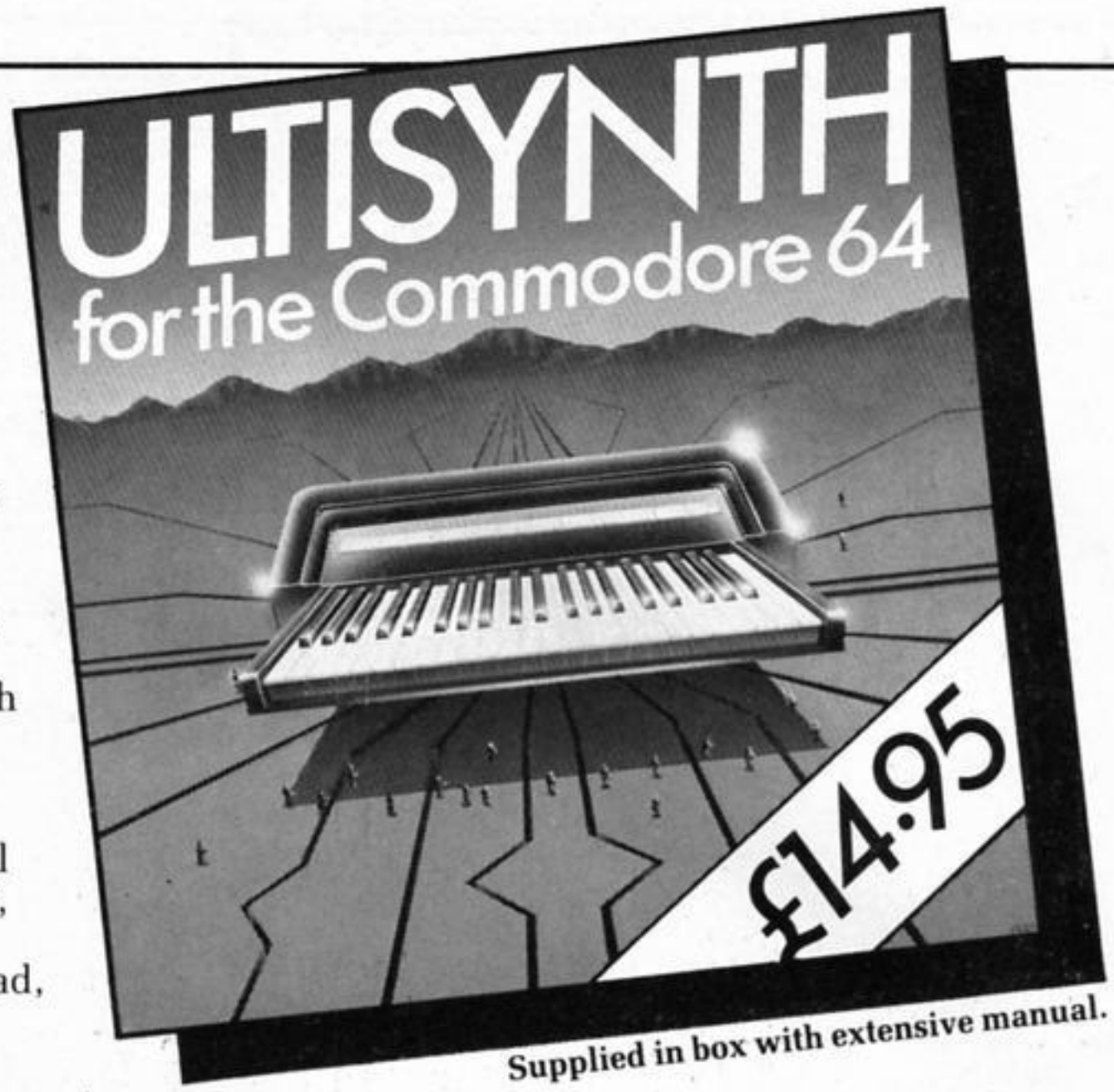

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Apathy that killed the TI

I was greatly dismayed to hear the news of Texas Instruments's withdrawal from the home computer market, and reading Stephen Shaw's letter in HCW 38 did little to light up the gloom.

Unlike many TI owners, I bought my machine fully aware of its limitation, with the belief that Texas would get their marketing act together, thus persuading more prospective micro purchasers to by a TI-99/4A in order to make the computing press take more notice, software houses to write more software, with the final effect that hardware prices would drop.

Well, soon you'll be able to pick up a TI-99/4A for around £50; unfortunately I don't think anyone will benefit in the long run.

So, TI will honour servicing and repair commitments for the next year or so; that's fine, but anyone would expect as much. What worries me is that I'll never be able to get together the nice little home system that I once hoped to, because soon, the expansion box and card peripherals, never produced in large quantities, will all be snapped up by the more affluent Texas users, before people like me can save enough money.

Stephen Shaw tells us to take out a loan and buy while we can. Unfortunately, those of us who are unemployed (I include myself) are not regarded as good credit risks, for some reason which escapes me...

Seriously, the whole sorry affair leaves me angry. Angry at Texas' terrible marketing, angry at the apathy of TI owners, but I think I reserve my main ire for the computing press (exclude HCW).

I honestly believe that their cold-shouldering of the TI-99/4A is the overriding reason for its downfall; apathy breeds apathy.

I hope you print this, I'd be very interested to hear more views on the business from the many TI users who read your magazine.

Seg Gorham, Wakefield, West Yorks

The invisible guy

In HCW 35 you printed a program about Guy Fawkes, but lines 510 and 520 had a blank space in the quotes. This should have been a graphic "A" so that it could be redefined as a user defined graphic.

I expect this happened because a proper printer was used instead of the Sinclair silver paper one.

HCW is the best mag about, I always get it.

A. Whalley, Potters Bar

Send your letter to Letters, Home Computing Weekly, No.1 Golden Square, London W1R 3AB. Don't forget to name your computer — the best letter could win £5-worth of software. Got a problem with your micro? We'll soon be starting a queries page, so send your technical questions to Queries at the above address

More praise of Things

I was made redundant last June, and the best buy I ever made was my Spectrum, which has had hours of constant use.

Just for the record, my payoff barely made the hundreds — a week's wages in lieu. I therefore have to count the pennies, and computing mags come well below essentials.

I picked a copy of Home Computing Weekly purely on the strength of a reasonable Spectrum game listing for 38p. It turned out to be nearly a best buy, except for one thing — the reviewier who wrote about Halls of the Things (HCW 39) can't possibly be talking about the game we bought.

Out of the dozen or so games we have begged, borrowed or bought, it is the only one to stay on the computer for more than half an hour. It is the most addictive, highly-competitive and difficult all-action game I have ever had the pleasure of playing.

Up to now, I have played for eight or more hours a day (in between the job-hunting), and my personal best score stands at 630 points. This includes four hard-won rings and 59 monsters spread through three of the eight levels.

I don't think I am alone in liking Hall of the Things. It highlights all the good points of the Spectrum's graphics display, and believe me, at times the little man doesn't move half as fast as I'd like.

One of my friends has bought a Spectrum mainly to play Halls, and another is considering making a pact with a credit shark because his scores are so bad (he doesn't yet own a computer).

My sister-in-law recently made the mistake of buying a 16K Spectrum. Guess what she wants to upgrade it for?

The only things missing from Halls are the screams of dying monsters, or the hiss of flying fireballs as they crisp a "thing". The basic Spectrum is not capable of producing those sounds, so better not try. Leave the silly tunes to the squashed frogs, and play Halls of the Things in silence.

Bill Fox, Matlock, Derbyshire

This is not the first letter we've published in defence of Halls of the Things, and we can only reiterate what our reviewer said last time — our reviews aren't gospel, they're just a personal opinion, though usually a pretty well-informed one. If you disagree with something a reviewer has said, we're always pleased to hear your comments. Sometimes we'll even print them, too!

K-tel: two is better value

K-tel's two-on-one tape was reviewed as two separate products — It's Only Rock 'n' Roll and Tomb of Dracula — in last week's issue.

This was because the review copy arrived without a cassette insert, similar to review versions often sent to magazines, and without paperwork explaining that it was a dual-game tape.

Our reviewer, P.C., says that his opinions of the two games remain the same but points out that, of course, a single tape with two games for £6.95 is much better value for money.

May we repeat our plea to software houses: Send us only tapes in the form in which your customers will buy them.

Our reviewers can only comment on what they receive.

And one company's products will usually be divided among several reviewers. This is impossible if there are several programs on one tape.

Home Computing Weekly

One for the road

I typed Robert King's 3D Road Game (HCW 34) into my VIC-20 and was immediately impressed by the standard of the graphics. I played it for hours. Keep up the good work, HCW!

David Warby, Bognor Regis, West Sussex

Shut the box and keep them happy

Children will enjoy playing this computerised version of an old favourite, adapted for the Dragon by James Greenall

How it works

1-90 initialise variables and ask if instructions required
100-110 initialise human's go
120 check whether dice can be added together
130 check whether either of numbers thrown is still uncovered
140-150 cover number(s) thrown
210-230 give player option to add dice
240 cover number obtained by adding dice together
260 pause before next go
500-550 end human's go, calculate score and transfer play to computer. Line 540 checks for end of game
1000-1550 as for human's go
2000-2030 end of game and replay routine
8000-8070 display rules
9000-9040 compute score at end of go
9500-9590 roll dice
9800-9860 check to see if all numbers covered and end of game if so
9900-9940 reprint box. This is done after each roll of the dice

Shut the Box is based on an old board game for two or more players. My version is for two players only, and will probably appeal to children in the seven to 12 age range.

All the rules of the game are given in the program.

```
1 REM SHUT THE BOX
2 REM (C)1983 JAMES GREENALL
10 ME=0:YOU=0:A$="123456789":CLS
20 PRINT@10,"SHUT THE BOX":PRINT@68,"DO YOU WANT T
HE RULES";:INPUT R$
30 IF R$="Y" THEN GOSUB 8000
40 CLS
50 GOSUB 9900
90 IF RND(10))5THEN 1000
100 REM HUMAN'S GO
105 PRINT@0,"YOUR GO";
107 P$="YOU"
108 PRINT@416,"PRESS ANY KEY TO ROLL THE DICE
      "
109 R$=INKEY$:IF R$="" THEN 109
110 PRINT@416,""
115 GOSUB 9500
120 IF D1+D2(10 AND MID$(A$,D1+D2,1)()"0" THEN 200
130 IF MID$(A$,D1,1)="0" AND MID$(A$,D2,1)="0" THE
N 500
140 IF MID$(A$,D1,1)()"0" THEN MID$(A$,D1,1)="0"
150 IF MID$(A$,D2,1)()"0" THEN MID$(A$,D2,1)="0"
160 GOTO 250
200 REM AGGREGATE DICE
```

```
210 PRINT@416,"";:INPUT "DO YOU WISH TO ADD THE DI
CE(Y/N)";R$
230 IF R$()"Y" THEN 130
240 MID$(A$,D1+D2,1)="0"
250 GOSUB 9900
260 FOR X=1 TO 2000:NEXT
270 GOTO 100
500 REM END OF HUMAN'S GO
510 GOSUB 9000
520 YOU=YOU+COUNT
530 PRINT@354,"ME:";ME:PRINT@375,"YOU:";YOU
540 IF YOU)=45 THEN GOTO 2000
550 GOTO 1000
1000 REM COMPUTERS GO
1005 PRINT@0,"MY GO  ";
1007 P$="I"
1010 GOSUB 9500
1020 IF 6(D1+D2 AND 10)D1+D2 AND MID$(A$,D1+D2,1)(
)"0" THEN 1100
1025 IF MID$(A$,D1,1)="0" AND MID$(A$,D2,1)="0" TH
EN 1500
1030 IF MID$(A$,D1,1)()"0" THEN MID$(A$,D1,1)="0"
1040 IF MID$(A$,D2,1)()"0" THEN MID$(A$,D2,1)="0"
1050 GOTO 1120
1100 REM AGGREGATE DICE
1110 MID$(A$,D1+D2,1)="0"
1120 GOSUB 9900
1130 FOR X=1 TO 2000:NEXT
1140 GOTO 1000
1500 REM END OF COMPUTER'S GO
1510 GOSUB 9000
1520 ME=ME+COUNT

1530 PRINT@354,"ME:";ME:PRINT@375,"YOU:";YOU
1540 IF ME)=45 THEN 2000
1550 GOTO 100
2000 REM LOSE ROUTINE
2010 PRINT@352,"SCORE GREATER THAN 45:";P$;" LOST.
"
2020 PRINT:PRINT"PRESS ANY KEY TO PLAY AGAIN"
```

```
2030 R$=INKEY$:IF R$="" THEN 2030 ELSE RUN
8000 REM RULES
8010 PRINT@10,"SHUT THE BOX"
8020 PRINT@66,"SHUT THE BOX IS AN OLD BOARD  GAME
INVOLVING DICE.":PRINT "  THE BOARD CONSISTS OF A
GRID  OF NINE NUMBERS. THE AIM OF THE GAME IS TO C
OVER THE NUMBERS ON THE BOARD WITH COINS (O) BY
  THROWING THE APPROPRIATE NUMBERSWITH";
8021 PRINT " THE DICE. THERE ARE TWO   DICE AND T
HE VALUES THROWN MAY  BE TAKEN SEPARATELY OR ADDED
   TOGETHER."
8025 PRINT:PRINT"PRESS ANY KEY TO CONTINUE...."
8026 R$=INKEY$:IF R$="" THEN 8026
8030 CLS:PRINT@2,"A PLAYER'S GO CONTINUES UNTIL HE
 IS UNABLE TO COVER ANY     NUMBERS WITH ONE THR
OW OF THE   DICE. AT THIS POINT THE VALUE OFTHE UN
COVERED NUMBERS IS ADDED  TO THE PLAYER'S SCORE. I
F THIS  BRINGS HIS SCORE TO 45 OR OVER";
8031 PRINT "  THE PLAYER MUST RETIRE.":PRINT TAB(2
);"THE WINNER IS THE PLAYER WHO  COVERS THE LAST N
UMBER":PRINT:PRINT"PRESS ANY KEY TO CONTINUE..."
8060 R$=INKEY$:IF R$="" THEN 8060
8070 RETURN
9000 REM COMPUTE SCORE
9005 COUNT=0
9010 FOR X=1 TO 9
9020 COUNT=COUNT+VAL(MID$(A$,X,1))
9030 NEXT
9040 RETURN
9499 STOP
9500 REM DICE THROW
9505 FOR X=0 TO RND(30)+1
9520 D1=RND(6)
9530 PRINT@462,D1
9535 SOUND X*5+89,4
9540 NEXT
9550 FOR X=0 TO RND(30)
9560 D2=RND(6)
9570 PRINT@464,D2
9575 SOUND 89+5*X,4
9580 NEXT
9590 RETURN
9800 REM CHECK FOR WIN
```

Main variables

ME computer's score
YOU player's score
A$ uncovered numbers. Elements of the string corresponding to covered numbers are set to zero
R$ general response to input prompts
P$ current player (either ME (computer) or YOU(human))
D1, D2 value of dice rolls for dice 1 and dice 2 respectively
X general purpose FOR/NEXT counter
COUNT total of uncovered numbers as computed at the end of each go
L$, L2$ lines of box outline composed of block graphics characters

The purpose of each section of the program, as well as being explained in the How it Works section, is also outlined in REM statements in the listing.

The main focus of the programming algorithm for the game is the use of A$ to store the value of each "box" and as the basis of printing the boxes.

Hints on conversion

The only parts of the program which might present conversion problems are the string slicing function (MID$), which is standard to Microsoft Basic, and the block graphics character codes used in drawing the box (these will vary from machine to machine). However, the game can be played just as well without the box outline being drawn.

DRAGON-32 PROGRAM

```
9810 FOR X= 1 TO 9
9820 IF MID$(A$,X,1)()"0" THEN RETURN
9830 NEXT
9840 PRINT@384,"GAME OVER. ";P$;" WON."
9850 PRINT:PRINT"PRESS ANY KEY TO PLAY AGAIN"
9860 R$=INKEY$:IF R$="" THEN 9860 ELSE RUN
9900 REM PRINT BOX
9905 L$=CHR$(129)+CHR$(131)+CHR$(130)+CHR$(129)+CH
R$(131)+CHR$(130)+CHR$(129)+CHR$(131)+CHR$(130)
9906 PRINT@43,L$
9910 PRINT@75,CHR$(133);MID$(A$,1,1);CHR$(138);CHR
$(133);MID$(A$,2,1);CHR$(138);CHR$(133);MID$(A$,3,
1);CHR$(138)
9915 L2$=CHR$(132)+CHR$(140)+CHR$(136)+CHR$(132)+C
HR$(140)+CHR$(136)+CHR$(132)+CHR$(140)+CHR$(136):P
RINT@107,L2$
9920 PRINT@139,L$:PRINT@171,CHR$(133);MID$(A$,4,1)
;CHR$(138);CHR$(133);MID$(A$,5,1);CHR$(138);CHR$(1
33);MID$(A$,6,1);CHR$(138)
9925 PRINT@203,L2$:PRINT@235,L$:PRINT@267,CHR$(133
);MID$(A$,7,1);CHR$(138);CHR$(133);MID$(A$,8,1);CH
R$(138);CHR$(133);MID$(A$,9,1);CHR$(138)
9930 PRINT@299,L2$
9935 GOSUB 9800
9940 RETURN
```

Micro Tip — VIC-20

Any key saves time

This program will save you time while entering Hex code to your VIC.

If you make a mistake, you would normally DELETE the character, but that means feeling for a single small key. Using this program, if you make a mistake all you have to do is press **any** key but space and the program sends you back to enter the correct value.

The IF statement in line 160 just prints an extra line between, in this case, blocks of 10. It is a very simple matter to alter this to any size of block that you require, by altering the two 10s.

Line 0 sets screen colour and disables auto-repeat on the space bar, for safety.

As for the routines at lines 200 and 300 on, I have left these off as (a) so many programs using Hex in large quantities often set their own rules for these and (b) everyone has their own favourite method of putting data to tape. Mine is via a monitor.

To show how much time this routine saves, I entered over 3700 HEX codes in just over one hour using the above. That was with just one hand — the other was holding a rule to the HEX codings!

```
0 POKE 36879,27 : POKE 650,255
10 PRINT "(CLS)(CD)(CD)(5CR) DR HEX LOADER"
20 PRINT "(CD)(CR)(BLK) 1 (GRN) ENTER CODE"
30 PRINT "(CD)(CR)(BLK) 2 (GRN) SAVE CODE"
40 PRINT "(CD)(CR)(BLK) 3 (GRN) LOAD CODE":
   POKE 198,0
50 GETA$:IF A$>"3" OR A$<"1" THEN 50
60 A=VAL(A$): ON A GOTO 100,200,300
100 PRINT "(CLS)(CD)(CD)ENTER START....." :
   INPUT SL: PRINT "(CLS)(CD)(CD)";
110 PRINT "(BLK)";SL;"(BLUE)(CR)(CR);: Z$=""
120 GET A$ : IF A$="" THEN 120
125 PRINT AS;: Z$=Z$+A$: IF A$="(F7)" THEN RUN
130 GET A$ : IF A$="" THEN 130
135 PRINT A$ : Z$=Z$+A$
140 GET A$ : IF A$="" THEN 140
145 IF A$<>CHR$(32) THEN 110
150 A=ASC (Z$)-48 : B=ASC (RIGHT$ (Z$),1))-48 :
   N=B+7*(B>9)+16*(A+7*(A>9)) : IF N<0 OR
   N>255 THEN 110
160 POKE SL, N : SL=SL+1 : IF SL/10=INT(SL/10)
   THEN PRINT
170 GOTO 110
200 REM YOUR NORMAL SAVE TO TAPE CODE
   ROUTINE
300 REM YOUR NORMAL LOAD FROM TAPE CODE
   ROUTINE
```

David Shepherdson

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Going by the board

Board games are traditional family entertainment at Christmas, but these games break with tradition — you can play them on your micro

Dragon Chess
Dragon 32
£9.95

Oasis, Lower North Street, Cheddar, Somerset

This is a well designed screen version of the game of chess with only very minor drawbacks. It's a machine code program that loads quickly and reliably, offering six levels of difficulty.

For me the winning feature was the on-screen menu which allowed so many options: you could get advice on your next move, change positions, set up problems, change level of play, take your move back, save and load games to tape, list your moves and have them printed.

Even this list isn't exhaustive! It was the sort of program that rekindled an interest in a classic game.

A small problem was the choice of colour mode, which produced one or two fuzzy pieces on the 'black' side. And my review copy didn't have any instructions, so I had to learn by trial and error that the M key enabled the cursor-driven menu.

Apart from these trifling matters I thought this was an excellent version of the game. Well worth buying. **M.P.**

instructions	0%
playability	90%
graphics	80%
value for money	90%

★★★★★

Reversi
48K Spectrum
£4.50

Byteware, Unit 25, Handyside Arcade, Newcastle

You play Reversi on a board similar to that of draughts or chess.

Moves are made by placing a counter on a vacant square next to an opponent's piece — the idea being to have as many counters as possible showing your colour when the game ends.

So you must "reverse" your opponent's pieces — your opponent being the computer.

In this version you move by entering the row number, then the column — the board is numbered to help you. The computer then acts on the move, and if you try anything illegal it will tell you to re-enter the move.

There are two ways to play. In one you can take your time to move. In the other, you have to make your move in four seconds or lose your go.

Be extremely careful when pressing keys to follow instructions. It's very easy to clear the program and end up loading it again.

As yet another computer version of a popular board game, this one should have been a lot better.

In short, nothing to get excited about. **C.McL.**

instructions	75%
playability	60%
graphics	60%
value for money	40%

★★

Conflict
32K BBC £14.75

Martech, 9 Dillingburgh Road, Eastbourne, East Sussex

The use of a computer to moderate war games has been with us for a long time now, but usually the machine takes over completely and the use of boards, counters etc is not required.

This game is different in that it comes with a playing board, counters and record sheets.

The idea is to march your army into the enemy city and you have to be a master of all trades to do so!

There is not only the command of the forces, but also the investment of your reserves on the metal exchanges, piracy and oil exploration, with their resulting profits or losses, to worry you too.

So I cannot really see this as a family game, as the rules and situations are far from simple and not always very well explained.

It is a two player game with no practice or computer opponent option, although discussion by more than one player could help your enjoyment.

If you have experience of war-gaming and an interest in computers then this is probably for you. It would also be a good introduction to computer moderated games. **D.C.**

instructions	60%
playability	70%
graphics	60%
value for money	80%

★★★★

Addvance
TI-99/4A £9

Stainless Software, 10 Alstone Road, Stockport, Cheshire SK4 5AH

Addvance is a board game in which up to two players and the computer compete against each other.

A 7×10 board is drawn on the screen, consisting of different coloured squares.

The object of the game is to score a set number of points (you choose this number at the start of the game) by moving your marker up the board.

If you land on an orange square, and you have got enough points, you can buy it. This means that if another player lands on your square he must give you some of his points. The number of points varies from zero to 15.

If you land on a yellow square, your score will be either decreased or increased by a random number less than five.

Purple squares are very nasty. If you land on one, you lose all your points.

Another way to increase your score is to move off the top of the screen. If this happens, you will reappear at the bottom of the screen, and gain 10 points.

I found that the game soon ceased to hold my attention, as the computer took such a long time to move.

Overall, this is not a bad program, but in my opinion it lacks lasting appeal. **J.J.**

instructions	80%
playability	50%
graphics	65%
value for money	50%

★★★

Othello
TI-99/4A £4.95

Timeless Software, 3 Bridgend, Fauldhouse, West Lothian

Othello (alias Reversi) has been around for a long time, but the great advantage of the computer version is that you have an opponent who doesn't gloat when you lose!

Actually, this version can be played by two players or one player against the computer. Also available is a demo mode to explain the game.

When you choose to play against the computer you also select skill level from one to five — a chance to nobble the opposition!

At the easiest level the machine will use the first legal move it finds, while at the higher levels all possible moves are evaluated and your reply considered too.

Moves are easily made by use of a flashing cursor which also indicates whose turn it is by its colour.

Response is rapid at easy level, a bit slower in the higher levels but brisk enough to remain interesting. Score is updated after each move. At the end of each game a play again option is offered.

Instructions are given on screen if required and a booklet gives full instructions together with the rules of the game.

I enjoyed playing this game and recommend it as ideally suited to the TI machine. **C.E.**

instructions	100%
playability	95%
graphics	90%
value for money	100%

★★★★★

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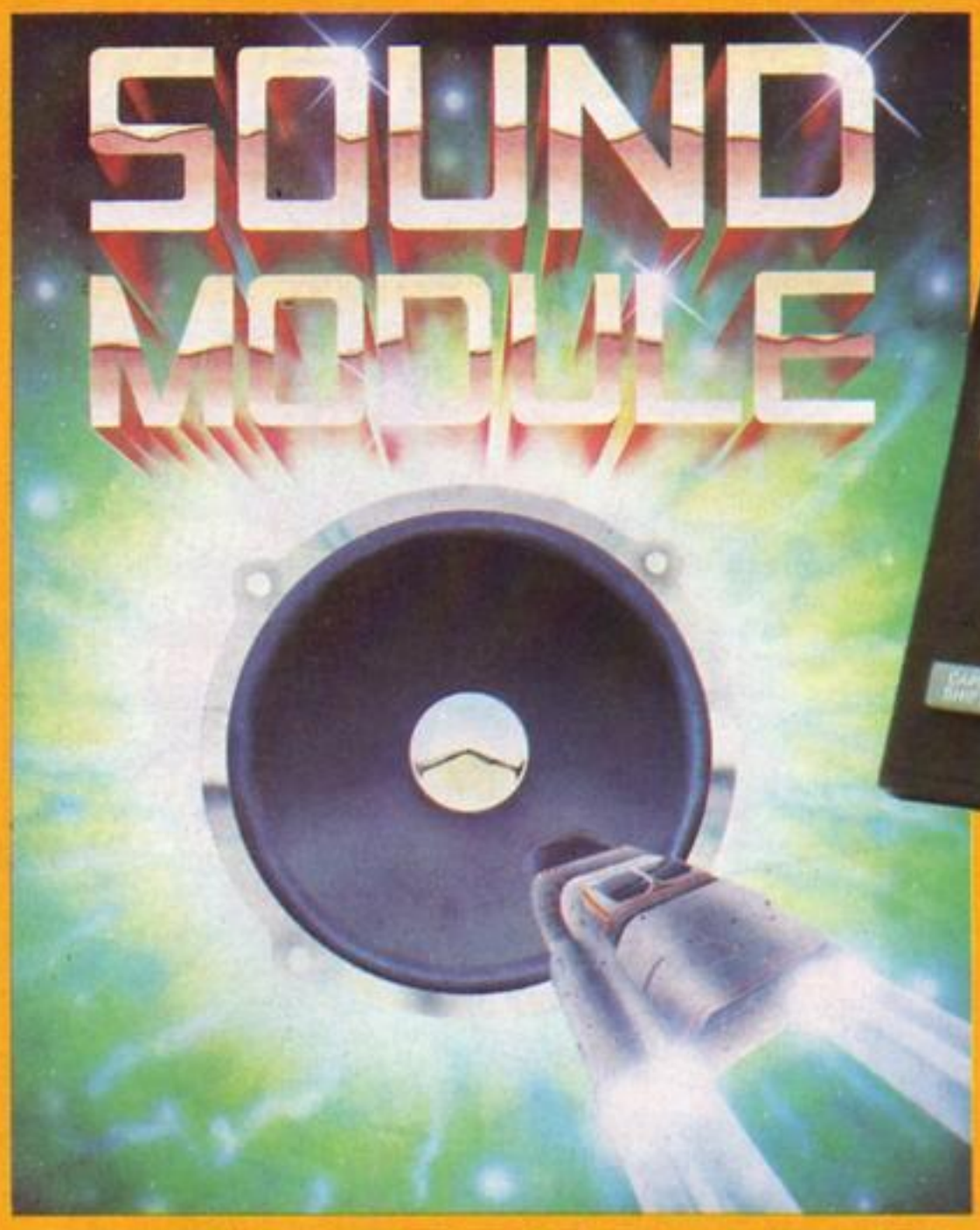

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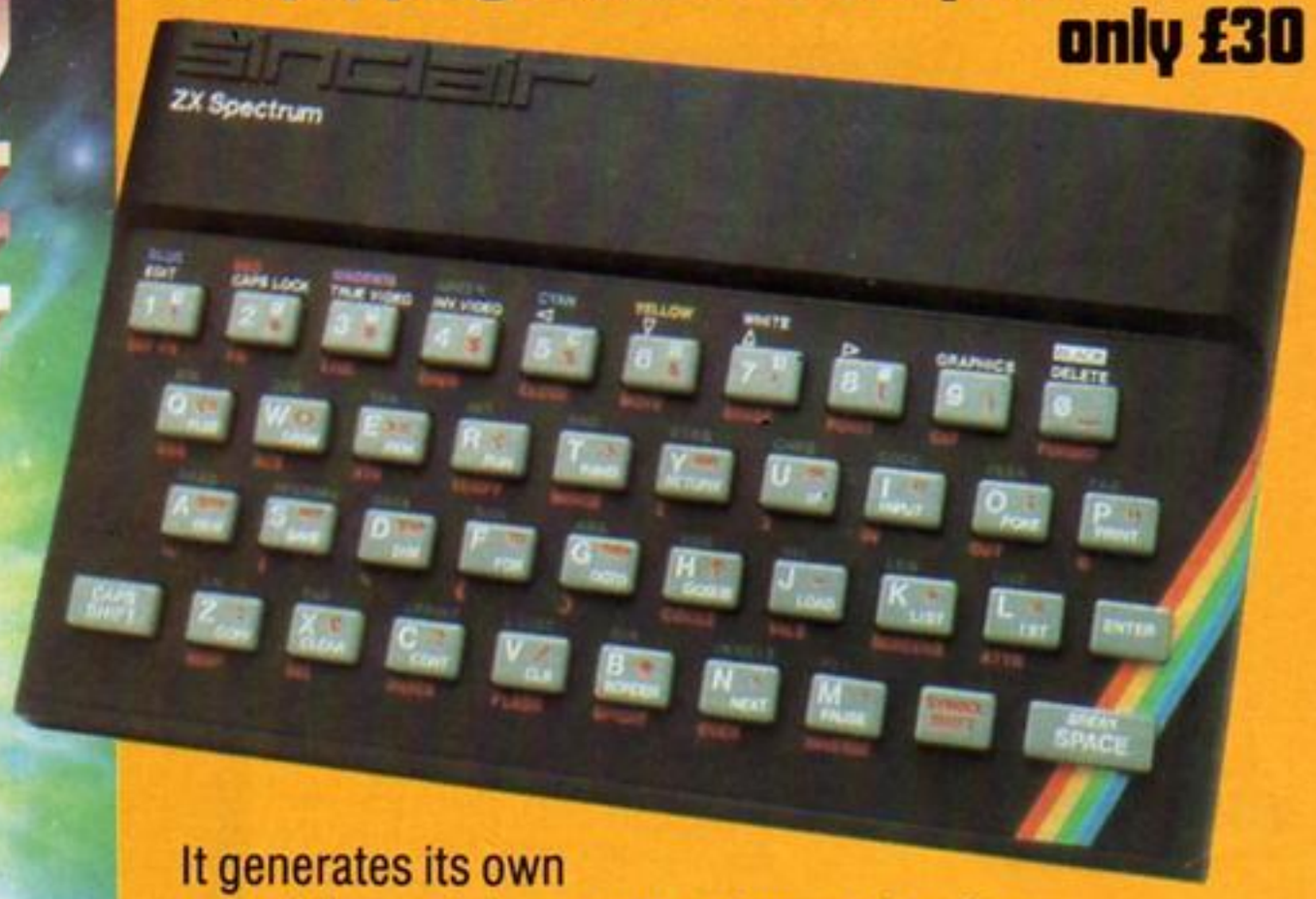

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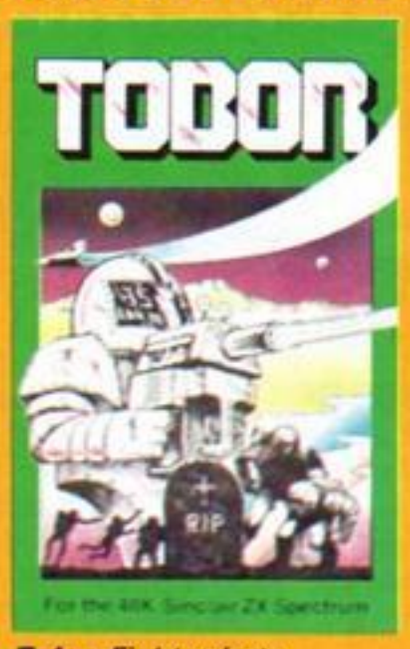

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Will you float to VICtory?

Family fun and sophisticated graphics are built into Peter Berrecloth's two-part two-player game. He's packed a lot into the unexpanded VIC-20

Here's a great family game that defies all the laws of gravity.

I have made good use of the unexpanded VIC-20 by writing Floating Four as a two-part program.

Part one sets up the 60 or so graphics and automatically LOADs the second part. The graphics are quite effective and could easily be converted for other programs.

Hints on conversion

For use without joystick, simply make these changes:

```
21 P = PEEK(197)
22 IF P = 32 THEN 25
23 IF  P = 64  THEN  FORT = 1
   TO20:NEXT:GOTO 12
```

Now both players use the keyboard.

To convert the program to another micro would require a lot of time and patience. The program consists almost totally of direct POKEs to animate the screen and make sounds.

Bearing in mind that the size of the VIC screen is 22 by 23 characters, the POKEs are as follows:

7168 to **7679** store hi-res graphics
7680 to **8185** screen char locations

Add **30720** to character locations to get screen colour locations.

646 changes char colour
36878 volume (15 is max)
36879 screen and border colour (8 is black)
36874 to **36877** voices
36869,255 hi-res mode

The control characters are explained at the beginning of the listing.

The object of Floating Four is to connect a line of four counters in a straight line — vertically, horizontally or diagonally.

Floating Four is a two-player game in which one player uses the joystick and the second uses the keyboard. But only three changes are needed to make it a keyboard-only game — see the Hints on Conversion section.

To move the counter anti-clockwise around the board, either hit any key or move the joystick.

Once in the desired position, the counter may be dropped either by pressing the space bar or the fire button. The counter will fall in the direction indicated at the bottom of the screen. It will always fall away from the side from which it was dropped and will continue to fall until it meets another counter or the edge of the board.

Scoring and checking is done by the VIC, so it's easy to play.

All wins are displayed and the winner always starts the next game. If there is no winner then a random player begins.

If no-one can move and a stalemate occurs, keep on trying to drop a counter. After the warning has sounded eight times the board will reset, but the scores remain the same.

To reset scores, press function key one when "HIT ANY KEY TO PLAY" appears.

Note: Ensure that the tape deck is switched off when playing, or the joystick's counter will continue to circle the board.

Variables

x(1),x(2) scores
VV players position around board indicator
Z player up
T main loops
H counter position
P PEEK(197) keyboard scan
U 37137 (joystick scan)
W fall direction value
S end char of board
B PEEK location of counter
RT counter for reset

How it works (part two)

0-5 initialise screen, variables
5-6 random start by-pass
7-9 display who goes first
10-11 display scores, counter
12-13 flash PLAYER UP and DROP arrow
14 divert to keyboard or joystick control
15-20 keyboard control
21-24 joystick control
25-28 set drop value and stop character for direction of fall
29-33 drop counter if possible
36-49 check for win and alternate player's turn
50-51 increase scores
52-56 flash winner and winning row, wait to restart game
58-60 drop disallowed
61 sound effect
63 PRINT sub-routine
202 PRINT counter sub-routine
203 calculate new counter position at start and alter drop indicator

Floating Four — listing one. Type in this listing first, SAVE it (for safety) and then type NEW before typing in the second listing

```
0 REM *CONTROL CHARS*
1 REM" ■=CURSOR HOME          □=CLEAR SCREEN
2 REM" ■=CURSOR DOWN          ■=CURSOR RIGHT
3 REM" ■ PRODUCES      NORMAL TEXT IN HI-RES MODE
4 REM" ■ RETURNS TO HI-RES
5 REM" ■=BLK ■=WHT ■=RED ■=CYN ■=PUR ■=GRN ■=BLU ■=YEL
10 POKE36879,8:PRINT"□":F=38687:FF=38507
20 POKE52,28:POKE56,28:REM RESERVE SPACE FOR GRAPHICS
30 Y=7168
40 READA:IFA<>-1THENPOKEY,A:Y=Y+1:GOTO40
50 POKE36869,255:PRINT"■■■■■■■■FLOATING FOUR":PRINT"■■■■PROGRAMMED BY P.A.B"
51 PRINT"■■■■■■■■■■HIT ANY KEY TO LOAD"
52 POKE36876,200:FORT=15TO0STEP-.2:POKE36878,T:NEXT:POKE36876,0
55 R$="\]↑←! \]↑←! \]↑←! \]↑←! "
60 PRINT"■■■■■■■■■"LEFT$(R$,22):P=PEEK(197)
65 IFP<>64THEN80
67 R$=RIGHT$(R$,23)+LEFT$(R$,1):POKE646,INT(RND(1)*7)+1
68 IFG=0THEN71
69 POKEF+H,0:POKEFF-H,1:H=H+1:IFH<19THEN60
70 H=0:G=0:GOTO60
71 POKEF+H,1:POKEFF-H,0:H=H+1:IFH<19THEN60
72 H=0:G=1:GOTO60
80 PRINT"□■■■■■■■■■■LOADING GAME■"
81 POKE198,10:POKE631,131:END
```

```
100 DATA 60,126,215,207,215,255,126,60,60,126,199,239,207,255,126,60
101 REM COUNTERS
110 DATA 0,0,0,232,168,232,136,142,0,0,0,234,170,238,164,164,0,0,0,238,138,206,
140,234
111 REM "PLAYER"
120 DATA 0,0,238,74,74,74,206,0,0,0,174,168,238,66,78,0,0,0,238,68,68,68,78,0
121 DATA 0,0,234,138,140,138,234,0
122 REM "JOYSTICK"
130 DATA 0,0,174,168,204,168,174,0,0,0,174,170,238,74,78,0,0,0,238,170,174,170,
234,0
131 DATA 0,0,236,170,234,202,172,0
132 REM "KEYBOARD"
140 DATA 60,60,24,24,24,24,60,60,0,0,195,255,255,195,0,0
141 DATA 126,255,255,255,255,255,255,126
142 REM INNER GRID SECTIONS
150 DATA 188,188,184,184,184,184,188,188,61,61,29,29,29,29,61,61
151 DATA 255,0,255,255,255,195,0,0,0,0,195,255,255,255,0,255
152 DATA 190,191,191,191,191,191,191,190,125,253,253,253,253,253,253,125
153 DATA 255,0,255,255,255,255,255,126,126,255,255,255,255,255,0,255
154 REM GRID SIDES
160 DATA 15,56,103,95,223,191,191,190,240,28,230,250,251,253,253,125
161 DATA 190,191,191,223,95,103,56,15,125,253,253,251,250,230,28,240
162 REM GRID CORNERS
170 DATA0,0,232,136,136,136,238,0,0,0,238,72,72,72,238,0,0,0,164,164,197,165,16
7,0
171 DATA 0,0,93,85,93,85,213,0,0,0,0,0,0,0,0,0,0,0,0,220,80,216,144,92,0
172 REM "CLICKWARE"
180 DATA 0,247,247,132,132,132,247,247,0,165,181,181,189,173,173,165
181 DATA 0,47,175,168,238,104,111,47,0,123,121,65,65,65,121,121
182 DATA 0,192,128,128,128,128,128,128,0,56,88,152,254,254,24,24
183 REM "CONNECT 4"
190 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0
191 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
192 REM SPARE GRAFIX
210 DATA 60,102,102,102,102,102,102,60
211 DATA 24,56,24,24,24,24,24,60,60,102,6,12,56,96,102,126
212 DATA 126,102,12,24,12,102,102,60,12,28,60,108,76,126,12,12
213 DATA 126,102,96,124,14,6,102,60,28,48,96,96,124,102,102,60
214 DATA 126,102,6,12,24,24,24,24,60,98,114,60,46,70,70,60,60,102,102,62,6,6,12
,56
215 REM 0123456789
```

```
220 DATA 0,0,103,85,87,86,101,0,0,0,119,85,87,84,116,0
221 REM "DROP"
230 DATA 8,28,62,127,28,28,28,28,28,28,28,28,127,62,28,8
231 DATA 8,12,126,127,126,12,8,0,8,24,63,127,63,24,8,0
232 REM DROP ARROWS
240 DATA -1
241 REM TERMINATE
```

Floating Four — listing two. Type in after listing one, SAVE and then type RUN

```
0 X(1)=0:X(2)=0:N=36877:SO=N-1:V=N+1:ID=8174
1 VV=0:POKEV-9,255:POKEV+1,8:PRINT"□■■CD■■■■■■■■■■
```

VIC-20 PROGRAM

```
28 IFVV=3THENW=-1:S=16
29 IFPEEK(H+W*2)<>32ORH=8140ORH=7744ORH=7724ORH=8120THENGOTO58
30 POKE7683+13*Z+C,4:POKEH,32:H=H+W:POKEID+C,1
31 B=PEEK(H):POKEH,Z:POKEH+C,Z+4:IFPEEK(H+W)=SORPEEK(H+W*2)<2THEN33
32 H=H+W:POKEH-W,B:POKEH-W+C,7:GOTO31
33 POKE650,220:FORT=15TO0STEP-.2:POKEV,T:NEXT:POKE650,0:POKEID+C,3:RT=0
36 Q=H
37 IFPEEK(Q+2)=ZTHENQ=Q+2:GOTO37
38 IFPEEK(Q-2)=ZANDPEEK(Q-4)=ZANDPEEK(Q-6)=ZTHENH=2:GOTO50
39 Q=H
40 IFPEEK(Q+44)=ZTHENQ=Q+44:GOTO40
41 IFPEEK(Q-44)=ZANDPEEK(Q-88)=ZANDPEEK(Q-132)=ZTHENH=44:GOTO50
42 Q=H
43 IFPEEK(Q+46)=ZTHENQ=Q+46:GOTO43
44 IFPEEK(Q-46)=ZANDPEEK(Q-92)=ZANDPEEK(Q-138)=ZTHENH=46:GOTO50
45 Q=H
46 IFPEEK(Q+42)=ZTHENQ=Q+42:GOTO46
47 IFPEEK(Q-42)=ZANDPEEK(Q-84)=ZANDPEEK(Q-126)=ZTHENH=42:GOTO50
48 POKEID,61:VV=0:IFZ=0THENZ=1:GOTO11
49 Z=0:GOTO11
50 GOSUB61:IFZ=0THENX(1)=X(1)+1:GOSUB200:TT=7679:GOTO52
51 X(2)=X(2)+1:GOSUB200:TT=7692
52 POKE198,0:PO=1
53 FORT=1TO20:POKE646,INT(RND(1)*7)+1:PRINT"■■■■HIT ANY KEY TO PLAY":NEXT
54 GETA$:IFA$<>""THEN1
55 IFOOTHENFORT=1TO4:POKET+TT+C,0:POKEQ-(T-1)*H+C,4+Z:NEXT:OO=0:GOTO53
56 FORT=1TO4:POKET+TT+C,1:POKEQ-(T-1)*H+C,0:NEXT:OO=1:GOTO53
58 POKEV,15:FORT=250TO120STEP-2:POKEH,T:NEXT:POKEH,0:RT=RT+1
59 IFRT>6THENPO=0:GOTO1
60 GOTO12
61 FORT=15TO0STEP-1:POKEV,T:FORTT=250TO120STEP-8:POKE650,TT:NEXTTT,T:POKE650,0:RE
TURN
63 PRINT"■■■■■ ■■■■■
```

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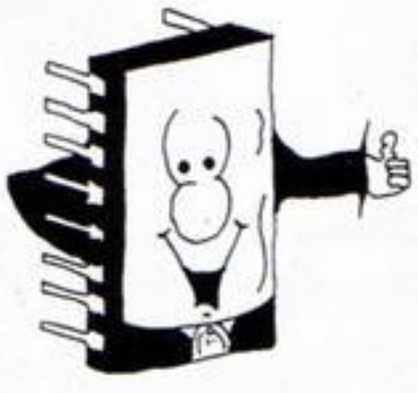

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It's Christmas Eve... and Santa's reindeer have escaped

There's thousands of Christmas stockings to fill, but first Santa must round up his reindeer. You can help by typing David Nowotnik's program into your 16K or 48K Spectrum

Just imagine this situation. Santa Claus is just about to set off on Christmas Eve to deliver many thousands of presents to expectant girls and boys throughout the world, when — horror of horrors — he finds someone has left a gate open, and all his reindeer have escaped.

How it works

50-130 define UDG characters
500-690 Subroutines: **510-520** PRINT trees, **530-570** check for keypress **600-690** Merry Christmas tune
1000-1090 main title
1100-1290 instructions
1300-1360 initialise main variables
1400-1580 set up the screen (pen, trees, reindeer, and Santa Claus)
1590 set 'clock' to zero
1600-1640 calculation of number of presents
1650-1730 move Santa Claus
1740-1800 move reindeer
1810 has another reindeer arrived in the pen?
1820-1870 if yes, increment score and play a tune
1890-2050 end of game message

Of course, he can't start without his reindeer to pull his sleigh, and the longer he takes to round them up, the more children he'll disappoint by failing to deliver their presents.

This is the theme of my game for the 16 and 48K Spectrum. You have to guide Santa to help him get his reindeer back into their pen.

The scene is set in the snow covered forest of Greenland (we all know that's where Santa is based). The reindeer pen will appear on the left hand side of the screen, and trees will be 'scattered' on the remaining part of the screen.

Main variables

a start position of the UDG area of RAM
sany,sanx row and column coordinates of Santa
y,x row and column coordinates of trees or reindeer
p number of presents it is possible to deliver
tr total number of reindeer returned to the pen
m() array which holds the relative coordinates for Santa's movements
r() array which holds the relative coordinates for moving reindeer

The escaped reindeer are hidden among the trees, and a distraught Santa Claus will start the game in the empty reindeer pen.

The game instructions are included in the program. Your success is measured by the number of presents Santa has time to deliver. This is shown at the bottom of the screen.

Two tips for playing this game. Don't get the reindeer trapped in trees or at the edge of the screen, otherwise it will be impossible to direct them to the pen. Also, you have 10 reindeer on the screen, and Santa needs only six to pull his sleigh — so go for the most accessible reindeer.

Listen out for the tune played at the beginning and end of the game.

```
 10 REM  Santa's dilemma
 20 REM by David Nowotnik
 30 REM  December, 1983
 40 REM
 50 REM    udgs
 60 LET a=USR "a"
 70 FOR i=0 TO 31: READ q
 80 POKE a+i,q: NEXT i
 90 DATA 24,60,24,126,60,255,126,255
100 DATA 24,24,24,24,24,24,60,60
110 DATA 10,10,14,142,124,124,68,68
120 DATA 24,24,60,90,189,60,126,126
130 BORDER 0: PAPER 7: INK 0: CLS
450 GO TO 1000
500 REM   Subroutines
510 REM 1. Print trees
520 PRINT  INK 4;AT y,x;"A": INK 3;AT y+1,x;"B": RETURN
530 REM Press a key
540 PRINT AT 21,1; INVERSE 1;"   Press any key to continue  "
550 IF INKEY$<>"" THEN  GO TO 550
560 IF INKEY$="" THEN  GO TO 560
570 LET z$=INKEY$: RETURN
600 REM Merry Christmas
610 RESTORE 650
620 FOR i=1 TO 29
630 READ a: READ b: IF a=99 THEN  PAUSE b: GO TO 630
640 BEEP a,b: NEXT i
650 DATA .5,0,.25,5,99,10,.25,5,.25,7,.25,5,.25,4,.5,2,99,2,.5,2
660 DATA 99,5,.5,2,.25,7,99,10,.25,7,.25,9,.25,7,.25,5,.25,4,99,10,.25,4,99,10
670 DATA .5,4,.25,9,99,10,.25,9,.25,10,.25,9,.25,7,.5,5,.5,2
680 DATA .5,0,.5,2,.5,7,.5,4,.5,5
690 RETURN
1000 REM Print Title
1010 FOR i=1 TO 50
1020 LET y=RND*20: LET x=RND*31
1030 IF ATTR (y+1,x)=60 THEN  GO TO 1020
1040 GO SUB 510: NEXT i
1050 PAUSE 100
1060 PRINT AT 5,12; INK 6; PAPER 1;"SANTA'S"
1070 PAUSE 50
1080 PRINT AT 8,11; FLASH 1;" DILEMMA "
1090 PAUSE 100: GO SUB 600
1100 PAUSE 100: BORDER 2: CLS
1110 PRINT AT 2,9; PAPER 1; INK 6;" Santa's Dilemma "''
1120 PRINT "  It's Christmas Eve, and Santa wants to get under way to "
1130 PRINT "deliver sackfulls of super microgames to all those lucky girls"
1140 PRINT "and boys whose parents have     bought them Spectrums, Orics,"
1150 PRINT "and other micros for Christmas."''
1160 PRINT "  But someone has left his gatesopen, and all the reindeer have"
1170 PRINT "got out. You'll have to guide   Santa to help him get 6 reindeer";
1180 PRINT "back into the pen at the left ofthe screen."
1190 GO SUB 530: CLS
1200 PRINT AT 2,9; PAPER 1; INK 6;" Santa's Dilemma "''
1210 PRINT "  You guide Santa by using the  cursor keys (5-8). The Reindeer"
1220 PRINT "will move away from Santa when  he stands next to them."''
1230 PRINT " You have to get 6 Reindeer intothe pen as fast as possible. The";
1240 PRINT "number at the bottom of the     screen is the number of presents";
1250 PRINT "Santa has time to deliver. As    you want to disaapoint as few"
1260 PRINT "children as possible, aim to    drive the Reindeer into the pen"
1270 PRINT "as quickly as you can."''
1280 PRINT "         Good luck"
1290 GO SUB 530
1300 REM Initialise Variables
1310 LET sany=8: LET sanx=2
1320 RESTORE 5000: DIM m(4,2)
1330 FOR i=1 TO 4: READ m(i,1)
READ m(i,2): NEXT i
1340 DIM r(8,2)
1350 FOR i=1 TO 8: READ r(i,1)
READ r(i,2): NEXT i
1360 LET tr=0
1400 REM Set up the screen
1410 BORDER 0: INK 0: PAPER 7: C
LS
1420 INK 3: PRINT AT 6,0;"▬▬▬▬
1430 PRINT AT 14,0; INVERSE 1;"▬
▬▬"
1440 FOR i=7 TO 13: IF i=10 THEN
 GO TO 1460
1450 PRINT AT i,5; INVERSE 1;"▮"
1460 NEXT i: INK 0
1470 FOR i=1 TO 50
1480 LET y=RND*20: LET x=RND*31
1490 IF x<10 AND (y>5 AND y<16)
THEN GO TO 1480
1500 IF ATTR (y+1,x)=60 THEN  GO TO 1480
1510 GO SUB 510: NEXT i
1520 FOR i=1 TO 10
1530 LET y=2+RND*17: LET x=2+RND*27
1540 IF x<10 AND (y>3 AND y<16) THEN  GO TO 1530
1550 IF ATTR (y,x)<>56 THEN  GO TO 1530
1560 PRINT AT y,x; INK 1;"C"
1570 NEXT i
1580 PRINT AT 8,2; INK 2;"D"
1590 POKE 23672,0: POKE 23673,0
1600 REM Go get them!
1610 LET b=PEEK 23672+256*PEEK 23673: LET p=65000-b
```

SPECTRUM CHRISTMAS PROGRAM

```
1620 IF p>60000 THEN  LET p=60000
1630 PRINT #1;AT 0,0;" Presents: ";p;" "
1640 IF p<30000 THEN  GO TO 2000
1650 REM Move Santa
1660 LET z$=INKEY$: IF z$="" THEN  GO TO 1600
1670 LET z=CODE z$-52: IF z<1 OR z>4 THEN  GO TO 1600
1680 LET y=sany+r(z,1): LET x=sanx+r(z,2)
1690 IF ATTR (y,x)<>56 THEN  GO TO 1600
1700 IF y<0 OR y>21 OR x<0 OR x>31 THEN  GO TO 1600
1710 PRINT AT sany,sanx;" "
1720 LET sany=y: LET sanx=x
1730 PRINT AT y,x; INK 2;"D": BEEP .01,-5
1740 REM Shoo reindeer
1750 FOR i=1 TO 8
1760 LET y=sany+r(i,1): LET x=sanx+r(i,2)
1770 IF ATTR (y,x)<>57 THEN  GO TO 1800
1775 IF y<1 OR y>20 OR x<1 OR x>30 THEN  GO TO 1800
1780 IF ATTR (y+r(i,1),x+r(i,2))<>56 THEN  GO TO 1800
1790 PRINT AT y,x;" ";AT y+r(i,1),x+r(i,2); INK 1;"C": BEEP .01,5
1800 NEXT i
1810 IF ATTR (10,5)<>57 THEN  GO TO 1600
1820 LET tr=tr+1
1830 FOR i=1 TO 5
1840 BEEP .15,-5: BEEP .15,0: BEEP .15,5
1850 NEXT i
1860 PRINT AT 10,5;" "
1870 PRINT AT 6+tr,0; INK 1;"C"
1880 IF tr<6 THEN  GO TO 1600


1890 PAUSE 100: GO SUB 600: PAUSE 200
1900 BORDER 2: CLS
1910 PRINT AT 4,8;"Santa can deliver ";AT 6,9;p;" presents."
1920 PRINT AT 10,0;
1930 IF p<40000 THEN  PRINT "You've disappointed many          children": GO TO 1
980
1940 IF p<55000 THEN  PRINT "Not too bad, but Santa will haveto miss quite alot
of children.": GO TO 1980
1950 PRINT "Well done: there won't be too    many disappointments tonight."
1980 PAUSE 100: GO SUB 600
1990 STOP
2000 FOR i=20 TO -10 STEP -.5
2010 BEEP .05,i: NEXT i
2020 CLS
2030 PRINT AT 4,0;"Oh dear! You've failed to catch enough reindeer in time."
2040 PRINT AT 9,0;"How can you ever forgive your-  self for all the broken heart
s"
2050 PRINT "you have caused!"
5000 DATA 0,-1,1,0,-1,0,0,1
5010 DATA -1,0,-1,-1,1,0,1,1,-1,1,1,-1,0,1,0,-1
```

Micro Tip — TI-99/4A

Back to BASICs

In magazine bench tests, in which a computer's speed is measured with standard short programs, Extended BASIC appears to be much slower than TI BASIC.

In practice, a program will usually run in Extended BASIC much faster — often in only 70 per cent of the time of TI BASIC.

Some of the extra speed is due to faster screen handling and 'long' line transfers, neither of which features in the bench tests.

However, one program (The Pit), recently translated to TI BASIC from Extended BASIC, showed up something interesting. When READing a lot of DATA, you can hear Extended BASIC ticking over very very slowly. A considerable speed increase can be had in such circumstances by using TI BASIC.

Moral: If you must read a lot of DATA, try to only read it once, or try to use TI BASIC. Otherwise, Extended BASIC will probably be faster.

Stephen Shaw

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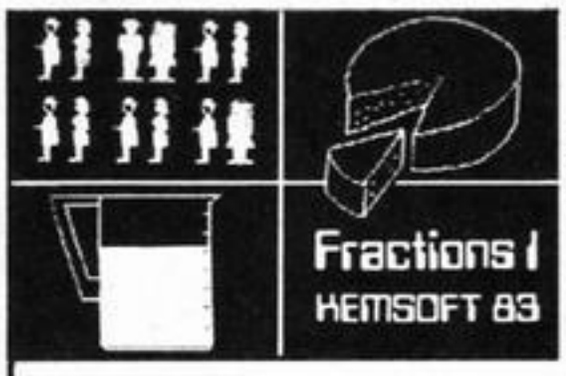

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Geography 48K Spectrum

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5 Star Review in Home Computing Weekly

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It seemed like a bad dream. It became a Spritemare

Lock the doors, close the curtains, turn on all the lights, make sure you're not alone in the house. Now you can read Mark Eyles' Christmas ghost story. But don't say you weren't warned...

My computer bleeped at me in a worrying way. I looked through the last part of my program for bugs, carefully comparing the lines on the TV screen with the notes scribbled in the book at my side. My eyes ached and my head felt as though someone had filled it with damp sand: the results of programming past one in the morning. The sound of my father snoring drifted, muffled, through the ceiling.

I glanced at my watch. The display read 2:34 and I felt dreams fighting behind my forehead, trying to take me from the world. Just another 10 minutes and I'll go up to bed I thought. I started to type in the last part of my program.

Outside the house trees and fields stretched away from the house into a pall of black which rose up into the velvet sky where clouds hung like ogres. Christmas Eve was in the process of becoming Christmas Day and ancient forces strained against the luke warm light from the window behind which Richard worked on his program.

The house was old but the foundations on which it had been built stretched far back to men who worshipped the sun. Below those foundations there rests ageing bedrock, the roots of which go deep into the heart of the hills. And that bedrock had been stained in antiquity with the blood of sacrifices.

To the arcane forces which strained in on the house the computer was incomprehensible. Richard was not. People they understood and the tools and machines of people they could bend to their own evil purposes through those people. And so they reached out one cold shadowy hand, wincing as the light washed through it. They caught at Richard's sleepy mind.

My hand felt suddenly cold as I pressed the keys. I really must get off up to bed soon, I thought, and yawned. As I did so, a shiver ran down my spine like a frozen worm. I continued typing though I felt half asleep and as I typed, the screen blurred and letters ran together. As they ran together I felt my hands typing faster and faster, the screen a mass of dancing figures winking and twirling.

Somewhere in the back of my mind I thought in an oddly coherent way: "I am asleep and none of this is happening. How useful it will be to finish typing in the program while I sleep." After that I felt myself falling backward through the chair and down a long, long tunnel of whispering grey mist.

I awoke uncomfortably with my head lolling over the back of the chair. Aches crawled through every muscle as I sat up, my fingers still on the keyboard. I looked at my watch. It now read 3:23. I was about to SAVE the program and then go straight to bed when the comments on the screen caught my attention:

```
666 REM DARK NIGHT: DARK SPRITE:
    SACRIFICE: KNIFE SLICE
    RUN
```

The cursor flashed after the RUN, waiting for me to start the program. I had the impression that it was winking at me in a private way, daring me.

I must have been more sleepy than I thought; a cold sweat broke out on the palms of my hands as I imagined creatures of evil creeping into the room through the shadows. I shook myself. "This is silly", I whispered to myself. "I can't possibly be scared of a character generator program. This is 1983 after all, not the Dark Ages."

I looked at the screen again and small hairs at the back of my neck stirred. I decided to SAVE the program, to turn off the computer and go up to get some sleep. My small brother would be awake in another couple of hours, ready to open his presents. The household rarely slept past 6.30 on Christmas Day.

Then my curiosity took hold and, seemingly of its own accord, my hand went to the keyboard to RUN the program. My eyes widened as I pressed the key...

The arcane forces had moved closer to the house and started to materialise into half men – half monster shapes... nightmares from the asylum of night. Their mouths twisted gleefully as Richard reached for the key. Plants around the house began to wilt. A wind blew crystals of crisp snow across the bare ground. Perhaps this Christmas would be white. The night creatures hoped it would be red.

I was dragged up to semi consciousness from a deep and troubled sleep by the sound of my brother's door opening. A dull throbbing came from my left arm. "I've been sleeping on it", I thought as I drifted back to sleep.

The next instant a scream echoed into my dream. I stirred, but the scream didn't stop. It became more shrill, clawing at the back of my eyelids, which finally opened. I came awake quickly, feeling weak and groggy. My arm ached even more, I moved it. A sharp pain bit to the bone. Air hissed out of my mouth with a small whimpering cry.

I rolled out of bed clenching my teeth against the pain and looked at my arm. Three deep, ragged scratches stretched between by elbow and wrist. The world tilted to an improbable angle and I saw spots of blood, now dried to a crusty brown, scattered about me.

I stood, nearly falling, as a wave of vertigo once again tilted the world, then made my way to the stairs. My father's worried half asleep face was just appearing at my parents' door. Ignoring him, I ran downstairs, almost falling as I missed a step, towards the sobbing coming from the lounge.

My little brother stood in the doorway, quivering with fear. I came up behind him and looked into the room. At the window stood the table which held the small portable TV and my computer. Embedded in the computer's keyboard was a large carving knife. From the cut in the keyboard a dark red-brown stain spread over the computer, across the table, down the table legs and over the rug below. The dark stain was blood. A hole had been smashed in the window through which some snow had come to settle on the window sill. The snow was pink in places. I then remembered pressing that key three hours earlier.

As I had touched the key a deep foreboding came over me, my skin pricked by small needles of fear. The screen went black and then seemed to disappear altogether, leaving a gaping pit. In the bottom small shapes began to form and claw up toward me. I realised I should not have touched the key. Too late. The light in the room dimmed and blinked out. I stood rigid with terror in absolute blackness.

Before me two eyes climbed up out of a pit a thousand miles deep. The eyes were set in a shadowy figure whose flesh crawled as though trying to escape. A mouth cracked open and laughed displaying the stumps of unpleasant teeth. A fetid smell accompanied a voice. Sounding like the sifting of soil onto a coffin, it whispered:

"In this Darkest Night
In the Death of Light
I am the Dark Sprite."

The face came closer and I could not move. I would have been ill... if I could have controlled by body. Then a cold damp claw closed on my arm. The face crept closer and nothing else but myself and it existed. The rest was blackness. I felt I might be trapped inside a buried coffin. Maybe I was dead. I couldn't remember dying. ▶

GHOST STORY

"Sacrifice, sacrifice. Knife. Get a knife. I must feed." He/it took his claw from my arm and as he did so he slashed into my flesh with three ragged claws. For some reason it was a though someone else were being cut. The face twisted into a "smile". I knew that it would be happy to feed on my soul and was promising no pain. Scared as I was, one part of my brain was working at fever pitch. This being was outside of science, far removed from my world, far removed from the things I understood. A being of evil from beyond time. Was this creature as ignorant of science as I was of magic?

Across the room a carving knife lay on a plate where it had been used yesterday to cut cake. I felt across the room in the dark, my eyes beginning to pick out objects in a blue-green luminescence which dripped from the creature's garments. I clutched the knife in my good right hand and moved back towards the monster.

"I'll give you your sacrifice," I whispered. I sank the knife into my computer. To my astonishment blood spurted from the gash. Then the world went crazy. The window cracked open soundlessly and a hundred dead spirits flew into the room, lighting it with their rotting glow. I was flung from my feet and crashed noiselessly across the room in slow motion. The beings fed, and I bled.

As I crawled from the room, obscene sucking sounds followed me up the stairs. By now I was half crazed with fear and not in control of what I was doing. I collapsed on my bed and fell into unconsciousness.

In that unconsciousness a handful of words fell:

"Never have we tasted meat like this before, so rich, so new, so different. We will return. We will return when hunger claws at us again. We will return to eat these new animals again."

My parents had arrived downstairs and were staring speechlessly at the room. How would they believe my story? How would I be able to warn people of the terror stalking them late at night through their home computers? . . . .

Mark Eyles is a director of Quicksilva, the Southampton-based software company.

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Poor Gordon! His drainpipes are blocked again and the only way to clear them is to drop barrels down them. Gordon stands on the top of his roof with 5 barrels. When the game starts he'll roll one down the roof. Press ***SPACE*** to drop it through the roof accurately into the centre of a drainpipe and you'll score the number of points in the pipe, which will start to flash, and Gordon will get the barrel back for another go. The barrel will be lost if the drop is inaccurate, or into a pipe already filled, but - Flash the dog is on hand! If you know you're going to lose the barrel and you can see Flash peeping out from the bottom-right corner, press ***D*** and Flash will save it! Once you clean all 5 pipes, you will get a bonus, but there's a surprise in store before you get the next set of pipes to fill **£5.95**

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SIX LEVELS OF SKILL ***ANYBODY WHO CAN DO LEVEL 6 SHOULD WRITE AND LET US KNOW!***

OGLES **for BBC/B**

Designed with people of all ages in mind this programme provides an aid to learn and match colours as well as being very entertaining. Not only have colours to be matched in sequence but co-ordination skills can be developed by moving the correct coloured OGLE to match a pattern displayed on the screen. Interest and amusement are provided by you as Gordon having to control your pet dog Flash by guiding him to collect the matching OGLE, carry it back and to drop it at the correct position. There are two levels of play.
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3	Chequered Flag	Psion (1)
4	Flight Simulation	Psion (9)
5	Manic Miner	Bug Byte (7)
6	Ant Attack	Quicksilva (4)
7	Lunar Jetman	Ultimate (6)
8	Pool	CDS (–)
9	Kong	Ocean (5)
10	Splat	Incentive (8)

Compiled by W.H.Smith. Figures in brackets are last week's positions

Top Ten programs for the ZX81

1	Defender	Quicksilva (6)
2	Scramble	Quicksilva (1)
3	Asteroids	Quicksilva (7)
4	Chess	Sinclair (5)
5	Space Raiders	Sinclair (9)
6	Fantasy Games	Sinclair (8)
7	Invaders	Quicksilva (–)
8	Inca Curse	Sinclair (–)
9	ZX81 Forth	Sinclair (–)
10	Maths/Geography	

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Top Ten programs for the Dragon

1	Mined Out	Quicksilva (3)
2	Pettigrews Diary	Shards (10)
3	Night Flight	Salamander (–)
4	Ring of Darkness	Wintersoft (1)
5	Dragonfly II	Hewson (–)
6	Gridrunner	Salamander (–)
7	Champions	Peaksoft (5)
8	Lionheart	Peaksoft (–)
9	Frogger	Microdeal (6)
10	Morocco Grand Prix	Microdeal (–)

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Top Ten programs for the VIC-20

1	Arcadia	Imagine (4)
2	Wizard & the Princess	Melbourne House (1)
3	Wacky Waiters	Imagine (2)
4	Laser Zone	Llamasoft (–)
5	Matrix	Llamasoft (10)
6	Gridrunner	Llamasoft (–)
7	Skyhawk	Quicksilva (5)
8	Sargon II	Commodore (–)
9	Money Manager	Commodore (–)
10	Panic	Bug Byte (3)

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BEST SELLERS

Top 30

1	Atic Atac	Ultimate	Spectrum (–)
2	Lunar Jetman	Ultimate	Spectrum (7)
3	Kong	Ocean	Spectrum (5)
4	Jetpac	Ultimate	Spectrum (2)
5	Manic Miner	Bug Byte	Spectrum (3)
6	The Hobbit	M.House	Spectrum (4)
7	Valhalla	Legend	Spectrum (1)
9	Chuckie Egg	A&F	Spectrum (17)
10	747 Flight Simulator	Doctorsoft	BBC
11	Pool	CDS	Spectrum (16)
12	Melbourne Draw	M.House	Spectrum (–)
13	Falcon Patrol	Virgin	CBM 64 (25)
14	Ostron	Softek	Spectrum (–)
15	Night Flight	Microdeal	Dragon (–)
16	Killer Gorilla	Program Power	BBC (10)
17	Trans-Am	Ultimate	Spectrum (8)
18	Splat	Incentive	Spectrum (–)
19	Cookie	Ultimate	Spectrum (9)
20	Horace and the Spiders	Psion	Spectrum (13)
21	The King	Microdeal	Dragon (18)
22	Penetrator	M.House	Spectrum (22)
23	Hall of theThings	Crystal	Spectrum (14)
24	Cuthbert in the Jungle	Microdeal	Dragon (15)
25	Snooker	Arctic	Spectrum (–)
26	Franklins Tomb	Salamander	Dragon (–)
27	3D Dimension Destruction	Arctic	Spectrum (–)
28	Crazy Painter	Microdeal	Dragon (–)
29	Pssst	Ultimate	Spectrum (20)
30	3D Combat Zone	Arctic	Spectrum (23)

Compiled by PCS Distribution (0254 691211) and sanctioned by the Computer Trade Association. Chart is for retail sales in individual outlets in the UK and Northern Ireland for the fortnight ended December 4

Top Ten programs for the Commodore 64

1	Crazy Kong	Interceptor (8)
2	Frogger	Interceptor (1)
3	Laser Zone	Llamasoft (–)
4	Spriteman	Interceptor (10)
5	Motormania	Audiogenic (6)
6	Purple Turtles	Quicksilva (2)
7	Quintic Warrior	Quicksilva (4)
8	Aquaplane	Quicksilva (9)
9	Renaissance	Audiogenic (–)
10	Caesar the Cat	Mirrorsoft (–)

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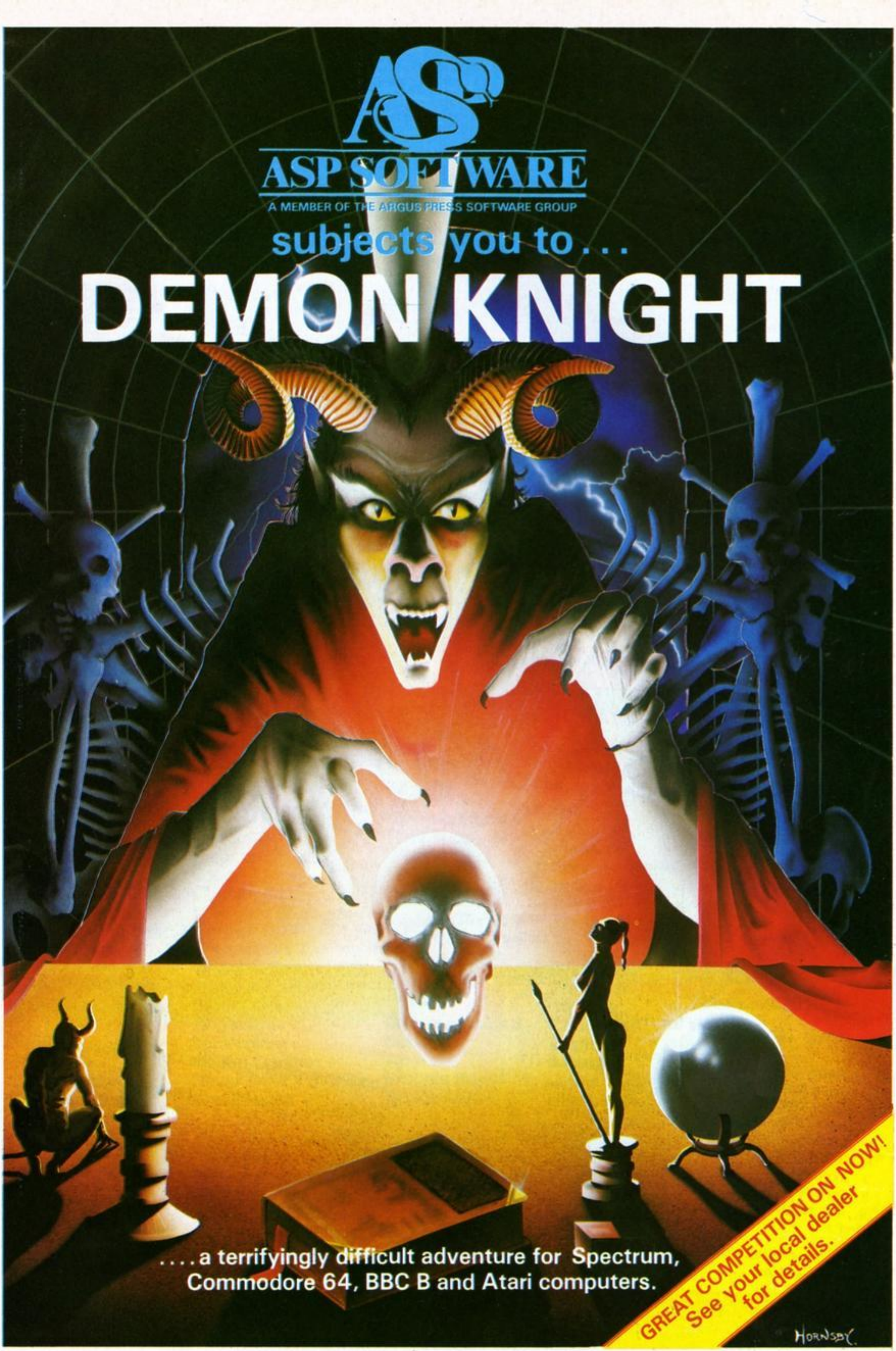

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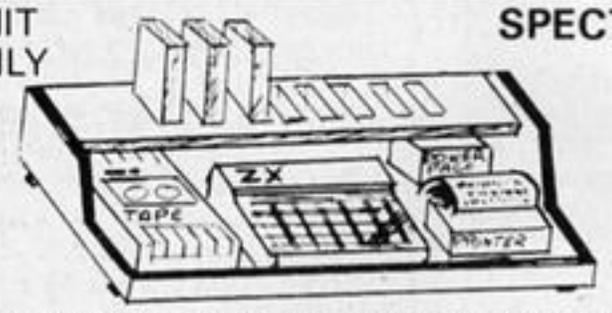

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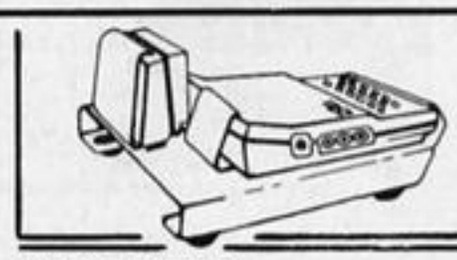

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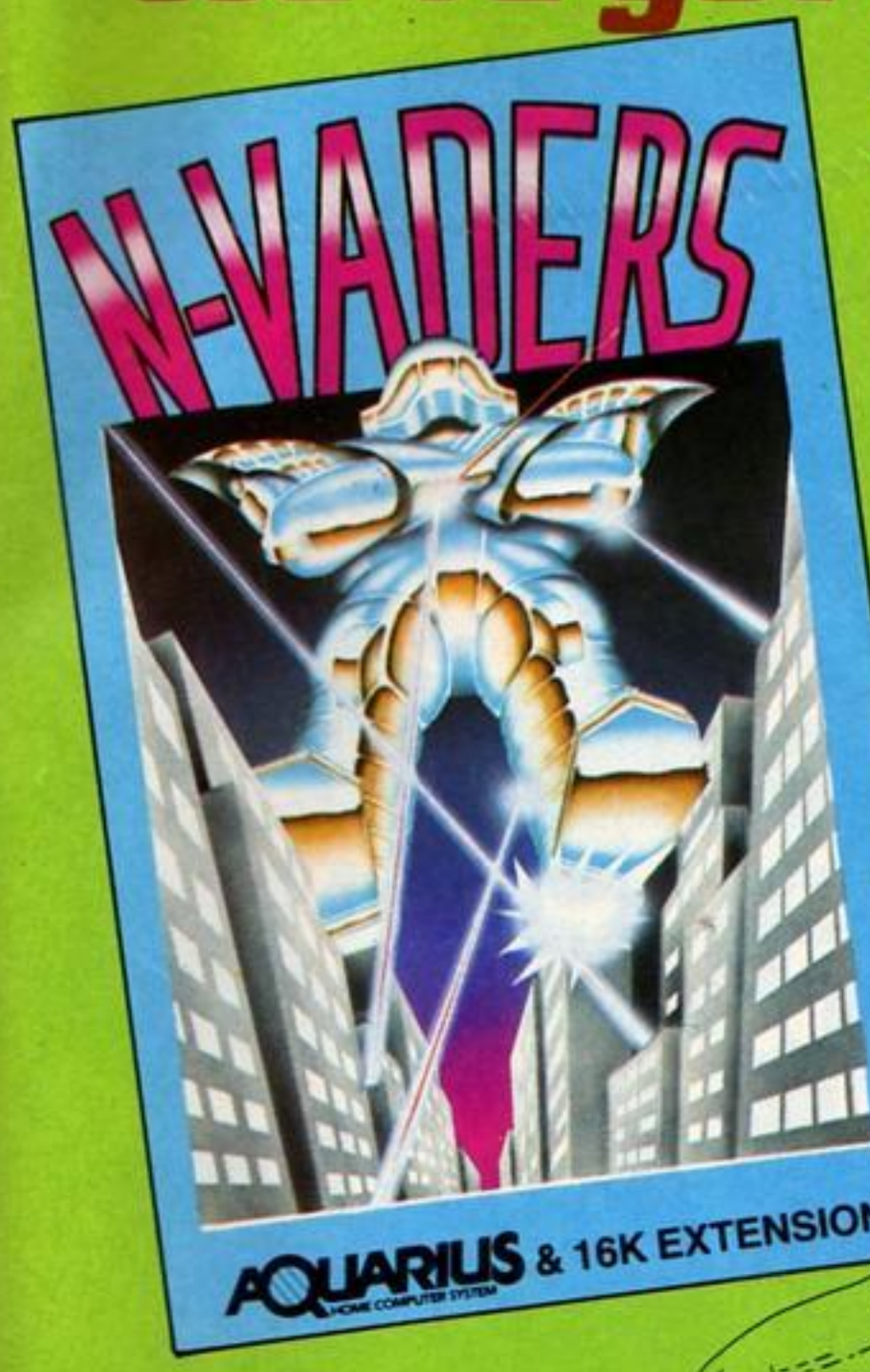

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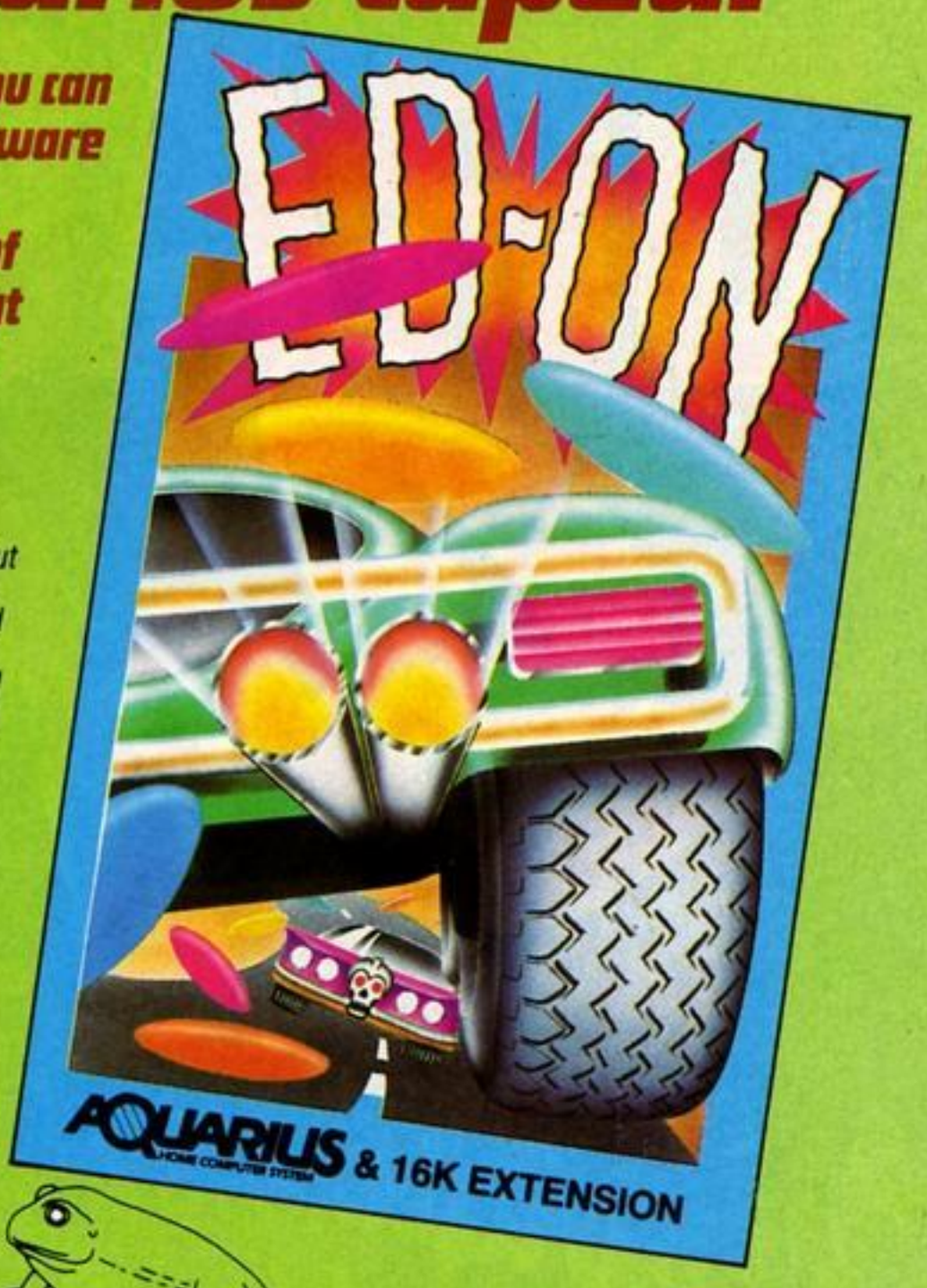

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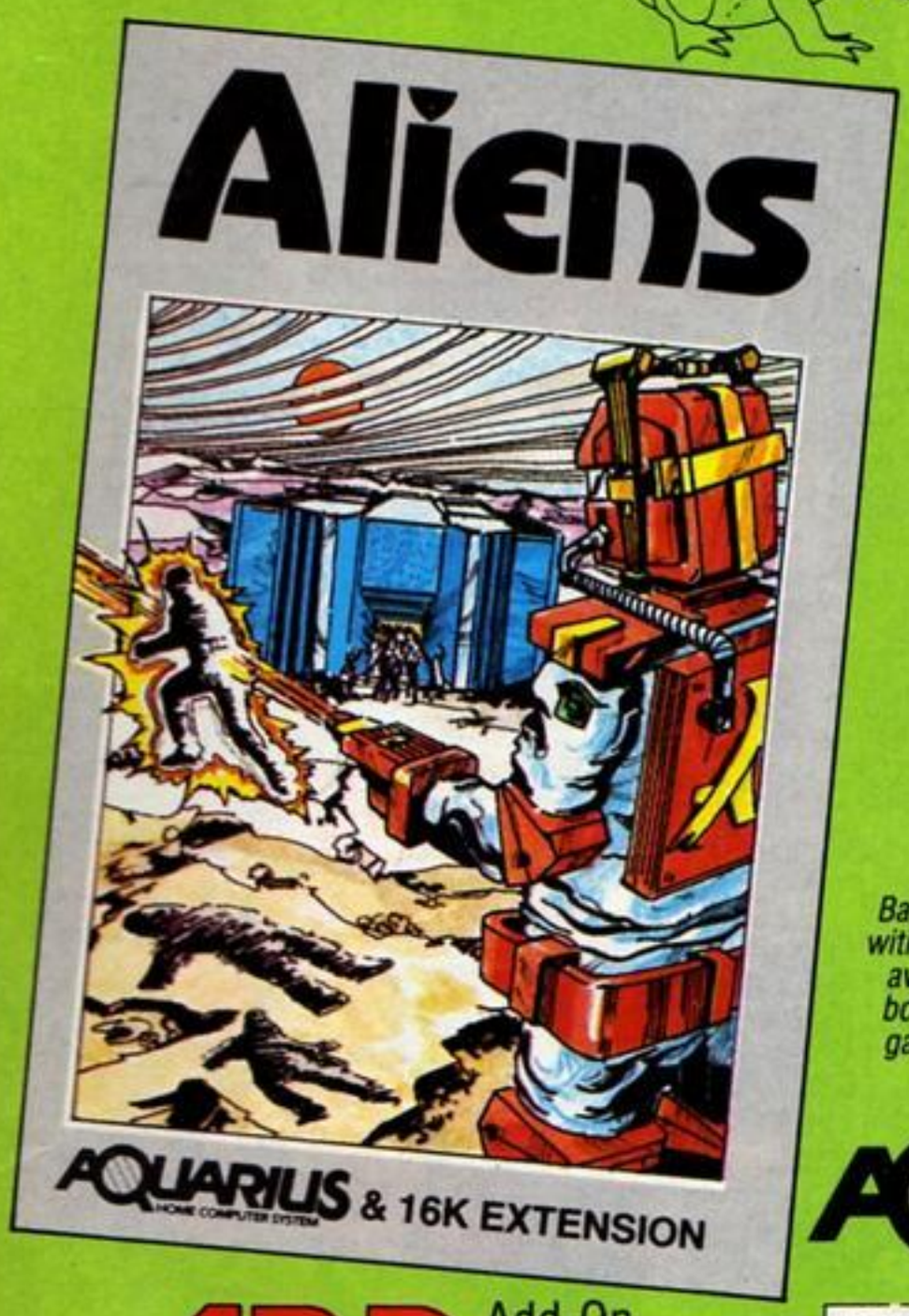

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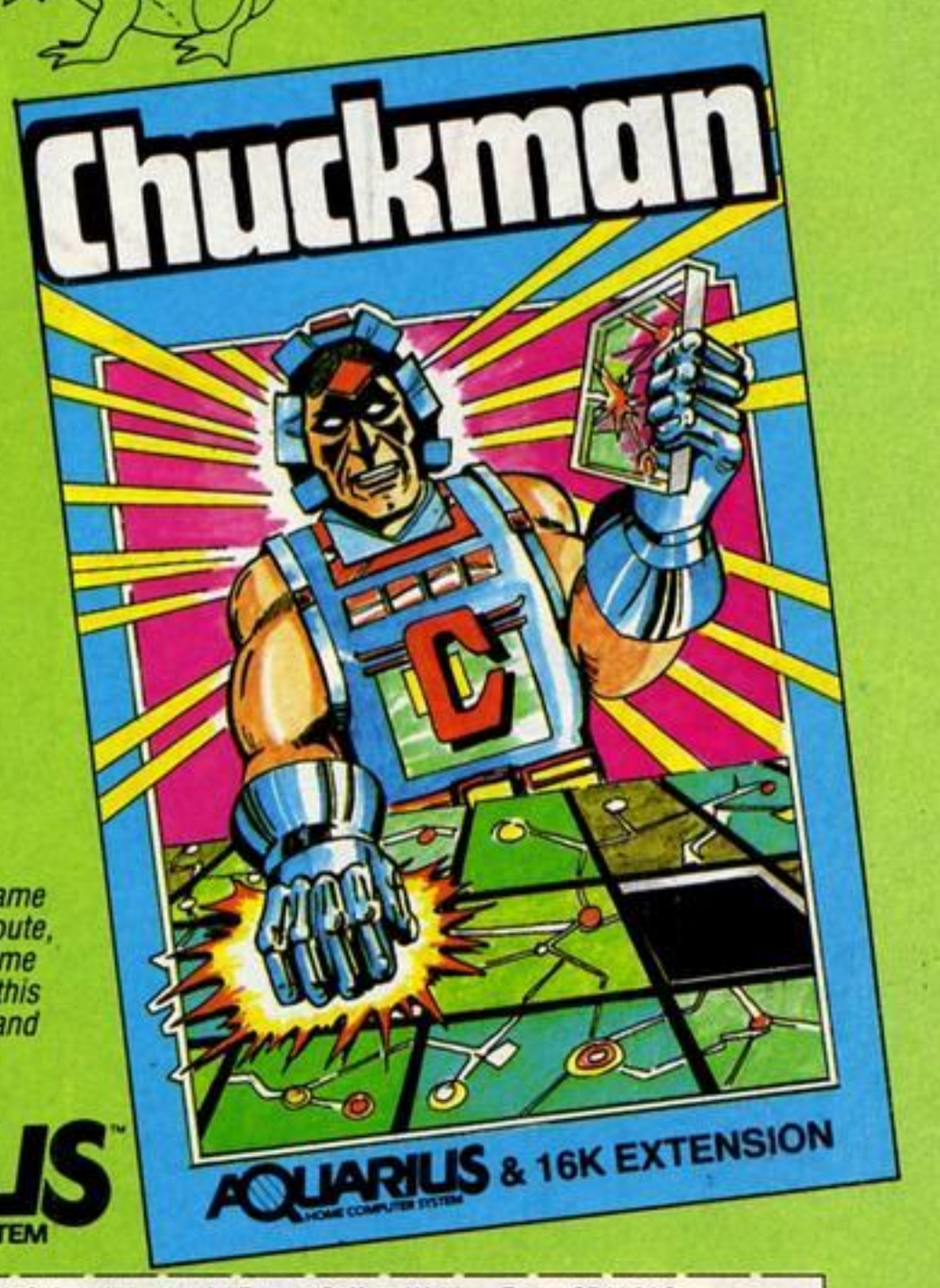

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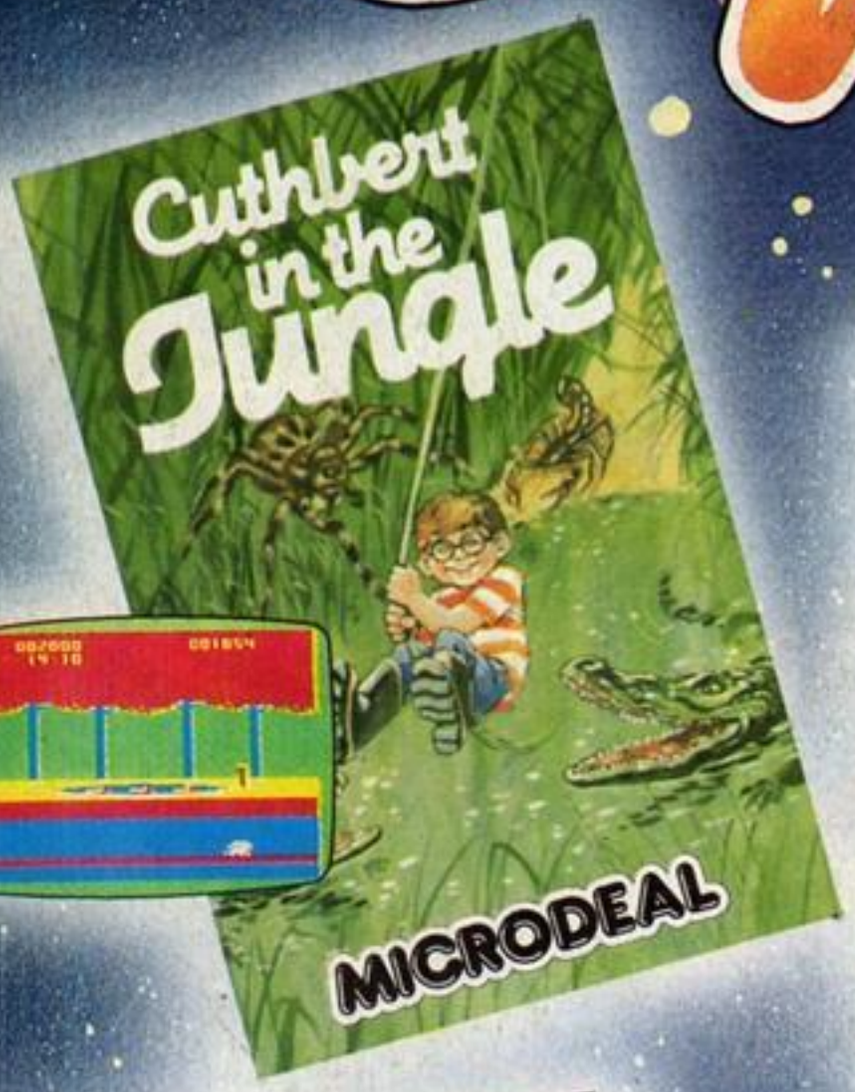

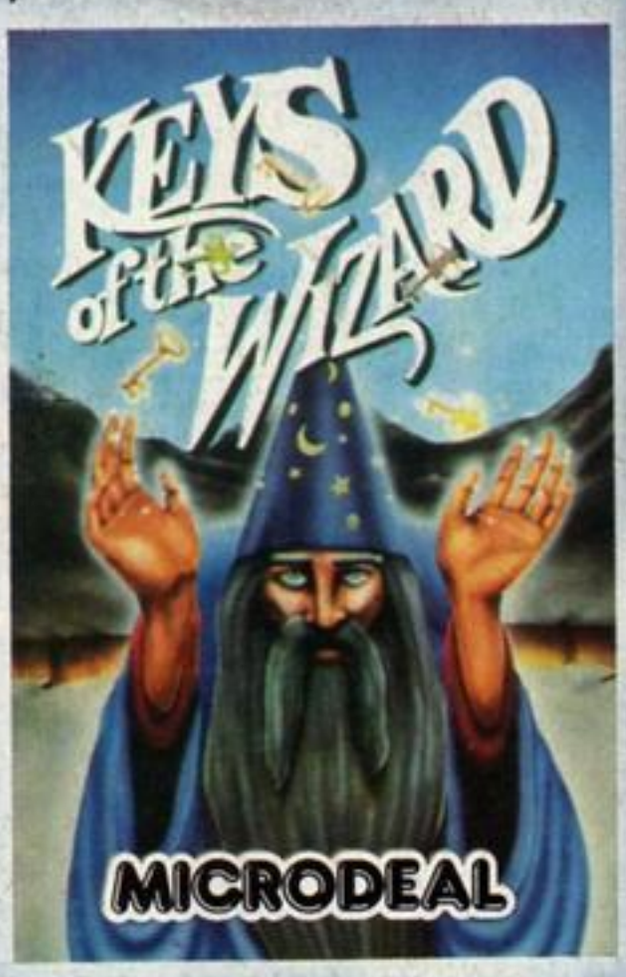

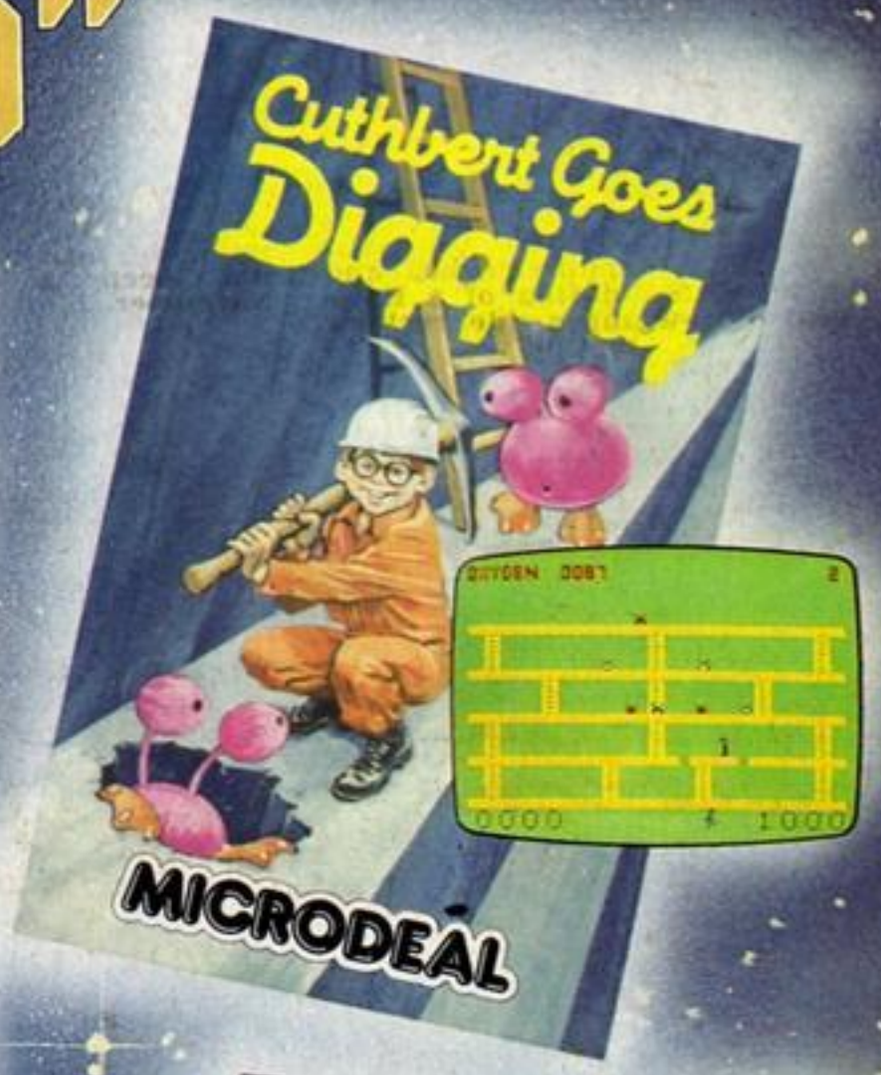

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